109

SERVICE MANUAL SD333

marantz®

model SD333

Stereo Cassette Deck

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Traneberg - Box 12016
16112 Bromma
Sweden
Telex: 13449

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32 Cross Street
Brookvale, N.S.W. 2100
Australia
Telex: 24121

U.S.A.

MARANTZ COMPANY, INC.
National Service Dept.
P.O. Box 577
Chatsworth, CA 91311
U.S.A.
Telex: 4720284

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SUPERSCOPE CANADA, LTD.
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Mississauga
Ontario, Canada L4V1M5

JAPAN

MARANTZ JAPAN, INC.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan
Telex: 22878

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

> In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

NOTE—FOR U.S.A. ONLY

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If, for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from SUPERSCOPE NATIONAL PARTS DEPARTMENT.

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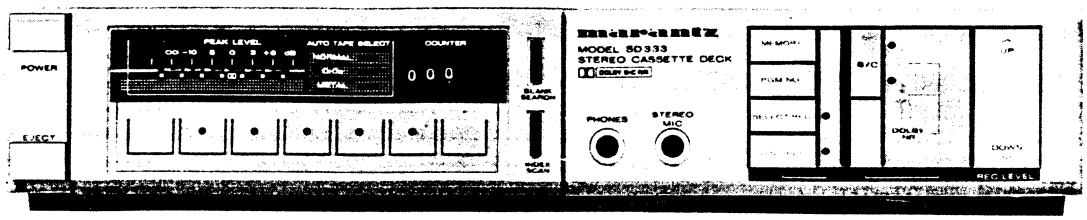
MARANTZ MODEL SD333 CASSETTE DECK



INTRODUCTION

This service manual are prepared for use by Authorized Warranty Station and contains service information for Marantz Stereo Cassette Deck.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Cassette Deck.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can be usually obtained through local suppliers.

1. SHOCK, FIRE HAZARD SERVICE TEST:

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verfied before return to user/customer.

Ref. UL Standard NO. 1270. Para. 66. 3. D (Mandatory Test after servicing Electrical Appliances, effective 7-1-83).

2. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Cassette Deck consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Dolby B/C NR ..... mounted on P.W. Board P601
2. Power Supply ..... mounted on P.W. Board P801
3. P/B EQ. Amp ..... mounted on P.W. Board PJ01
4. Main Amp. ..... mounted on P.W. Board PK01
5. Timer Switch ..... mounted on P.W. Board PK02
6. Mecha Operation
   Display ..... mounted on P.W. Board PR01
7. Front Switch ..... mounted on P.W. Board PY01
8. Dolby Switch ..... mounted on P.W. Board PY02
9. μ-COM ..... mounted on P.W. Board PU01
10. μ-COM Sub ..... mounted on P.W. Board PU99

3. TEST EQUIPMENT REQUIRED FOR SERVCING

For measuring or checking your Cassette Deck, the following instrkuments and materials are necessary.

- VTVM
- Audio Oscillator (AF OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Blank Tapes (Completely erased with bulk eraser)
  TDK AC-212 (Normal)
  TDK AC-512 (Special/CrO2)
  TDK AC-711 (Metal)

NOTE: If any doubt is noted in a measured value, use new tape.

- Test Tapes (New Tape)

MTT-111	Wow and Flutter, Tape Speed
MTT-112	Measurements of Output Level
MTT-112B	Signal-to-Noise Ratio
MTT-150	Adjustment of Output Level
MTT-256	Frequency Response (for Normal)
MTT-356	Frequency Response (for Special/ CrO_2, Fe-C_2 and Metal)
MTT-121	Cross Talk
MTT-141	Channel Separation

4. MECHANISM AND CIRCUIT DESCRIPTION

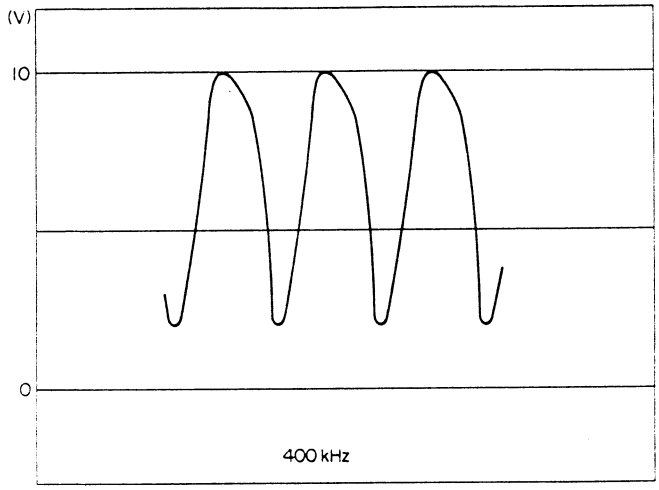
4.1 INITIAL CHECK

When the power is turned on with a cassette loaded;

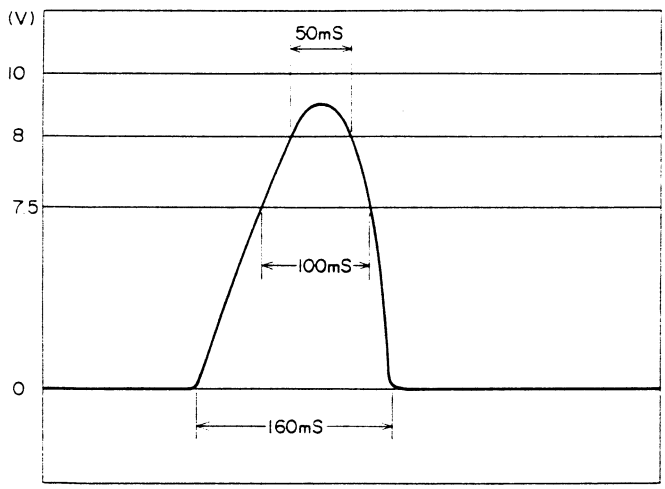
1. The supply reel rotates clockwise.
2. The brake (L071) turns on when the take-up reel rotates 1/4 turn.
3. The brake turns off after 400ms.
4. After 1 sec, the relay enters the REC mode, then returns to the PLAY mode after 1sec.

If step 1. is not carried out;

a. Check the waveform at pin ① of QU20 and pin ㉘ of QU21.



b. Check the waveform at pin ⑦ of QU20 and pin ㉖ of QU26.



If the above waveform cannot be obtained, the assist motor continues to rotate and the unit repeatingly enters the play and rec modes. If the correct waveform is obtained and the unit fails to operater correctly, check the connection between assist PWB (P076) and mechanism intermediate PWB (P702).

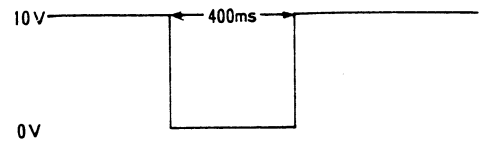
c. Check that a DC voltage of 8~10V is applied to pin ⑥ of QU20.
d. Check that a DC voltage of 8~10V is applied to pin ⑦ of QU21.
e. Check the motor switch (s071) circuit.
f. Check the QU22 (F/R driver) circuit.
g. Check the connection of the F/R motor (M072)

If the take-up reel rotates for more than 5 sec in step 2;

a. Check the photo interrupter (Q071) and QU15 circuit.

If the brake is not turned on in step (3);

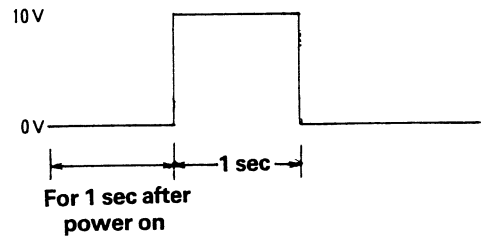
a. Check the waveform at pin ⑪ of QU21.



b. Check the circuit around QU13, QU14, and brake solenoid (L071).

If step 4. cannot be carried out correctly;

a. Check pin ㉒ of QU20.



b. Check the circuit around QK09 and relay (LK05).

4.2 MOTOR DRIVE CIRCUIT

1. F/R drive (QU22)

a. When pin ⑥ of QU21 becomes "H", the take-up reel starts rotating (FF operation).
b. When pin ⑦ of QU21 becomes "H", the supply reel starts rotating (REW operation).
c. When both pins ⑥ and ⑦ of QU21 become "H" or "L", both reel do not rotate (STOP mode).
d. When pins ⑥ and ⑩ of QU21 become "H", the take-up reel rotates at low speed (PLAY/REC operation).

	QU21 ⑥	QU21 ⑦	QU21 ⑩
STOP	L	L	L
F.F	H	L	L
REW	L	H	L
PLAY (REC)	H	L	H

L=0V
H=10V

2. Assist driver (QU23)

a. When pin ⑧ of QU21 becomes "H", the head chassis moves forward (STOP — PLAY operation).
b. When pin ⑨ of QU21 becomes "H", the head chassis moves backward (PLAY — STOP operation).
c. When both pins ⑧ and ⑨ of QU21 become "L" or "H", the head chassis does not move.

- The operation time between PLAY and STOP is about 150msec.

NOTE:

As the motor drive circuit operates at −12V, assume that the −12V line is ground and the 0V line is +B.

4.3 PLAY OPERATION

a. When the PLAY switch (SR05) is pressed, the H_0 output at pin ㉖ of QU20 goes to pin ㊳ B_1 of QU20 and the microprocessor detects that the PLAY switch is pressed.
b. Play commands are applied from pins ② C_0, ③ C_1, ④ C_2 and ⑤ C_3 of QU20 to the same pins of QU21.
c. Pin ⑧ of QU21 becomes "H", the assist driver (QU23) is activated, the assist motor (M073) starts rotating and the head comes into contact with the tape.
d. The contacts on the assist P.W. Board (P076) connected to assist motor (M073) are positioned for the PLAY mode, the microprocessor (QU21) detects the end of the play operation.
e. When pin ⑧ of QU21 becomes "L", the head stops in the PLAY position.
f. When pins ⑥ and ⑩ of QU21 become "H", the take-up rotates at low speed to take up the tape.

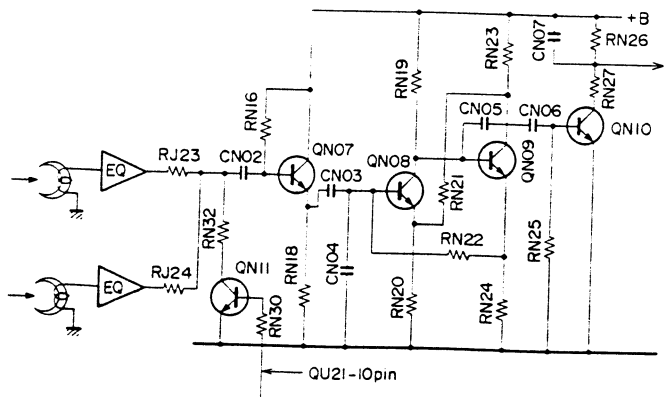
4.4 FF/REW OPERATION

a. When the FF (REW) switch (SR04, SR06) is pressed, QU20 detects that the FF (REW) switch is pressed in the same way as in the PLAY mode.
b. The FF (REW) commands are fed from QU20 to QU21.
c. In case of the FF mode, pin ⑥ of QU21 becomes "H". In the REW mode, pin ⑦ of QU21 becomes "H". The reel rotates in the specified direction.

4.5 STOP OPERATION

a. When the STOP switch (SR07) is pressed during playback, the microprocessor detects that the STOP switch is pressed.
b. The STOP commands are sent from QU20 to QU21.
c. Pins ⑥ and ⑩ of QU21 become "L" to stop the tape.
d. When pin ⑨ of QU21 is "H", the assist driver (QU23) is controlled to rotate the assist motor (M073) and the head moves away from the tape.
e. Pin ⑪ of QU21 becomes "L" for 400ms to apply the brake both reels.
f. The contacts on the assist P.W. Board (P076) connected to the assist motor (M073) move to the STOP position and the microprocessor detects the end of the STOP operation.
g. When pin ⑨ of QU21 becomes "L", the head stops in the STOP position.

4.6 SKIP OPERATION



The playback equalizer is combined by RJ23 and RJ24 and applied to QN07. The head output increases by about 10 times during the skip operation. During that time, the input voltage to QN07 is divided by RJ23, RJ24 and RJ32 due to the level at pins ㉚ of QN11 and QN21 to obtain the normal level. As the input impedance of QN08 is low, QN07 functions as a buffer. When MTT-155 played back, the input voltage of QN07 is about 100mV which is the same as that in the skip operation. The output of QN07 is increased to 58dB by QN08 and QN09 and differentiated by CN06 and RN25. The differentiated output is applied to the collector of QN10, then goes to microprocessor. When the waveform height of QN10 becomes lower than 5.3V, QN20 receives an L signal. When no signal is applied to pin ㉞ of QN20 for more than 100ms in skip operation of more than 3 sec in single tune repeat playback, the unit enters the PLAY skip mode.

- To obtain the skip mode, press the program No. key the number of times as tunes you want to skip in the STOP or PLAY mode.

4.7 SYNC REC OPERATION

a. When the unit is set to the REC PAUSE mode and SYNC REC switch (SY06) is pressed, the output at pin ⑨ D_1 of QU20 is fed to pin ㊳ B_1 of QU20 and the microprocessor (QU20) detects that the SYNC REC switch is pressed.
b. When pin ⑪ of QU20 becomes "H", QY02 turns ON and the SYNC REC LED (DY06) lights.
c. When the level at the SYNC REC jack (JH24) drops to the GND level, the unit enters the REC mode.
d. When the level at the SYNC REC jack (JH24) is higher than the GND level, the unit enters the REC PAUSE mode after 4 seconds.

- When the pin ㉔ of QU20 is "H" or "L", the unit enters the REC or REC PAUSE mode respectively.

4.8 SELECT REC OPERATION

a. When the unit is in the REC PAUSE mode and the program No. key is pressed twice (the first tune is input and the unit enters the REC mode), press the SELECT REC button.
b. When pin ⑩ of QU20 becomes "H", QY01 turns ON and the SELECT REC LED (DY05) lights. At that time, pin ⑬ of QU20 becomes "H", QU03 and AN12 turn ON, the skip amp input is separated from the playback equalizer amp and the signal at the LINE INPUT jack is fed to the skip amp.
c. During that time, a signal of 1kHz, −20dB is input to the LINE INPUT jack (JG01) for more than 4 seconds. With this input, the level at pin ㉟ of QU20 becomes "L", and the microprocessor (QU20) detects the first tune input.
d. The level at the LINE INPUT jack is decreased to −60dB, the PAUSE mode is released after about 3 seconds and the unit enters the REC mode.
e. The procedure in step C. is repeated. The microprocessor (QU20) detects the second tune input.
f. The procedure in step d. is repeated. The unit enters the STOP mode after about 3 seconds.

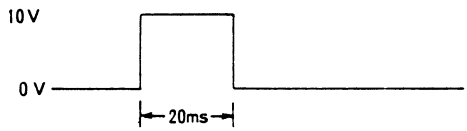
4.9 REMOTE CONTROL OPERATION

a. Connect the remote receiver (AT333) to REMOCON BUS jack (JH22). (Keep the remote switch of the cassette deck set to 1.)
b. Set the remote controller (RMC-10) to the TAPE-1 mode.
c. Set the remote switch (SH01) of the cassette deck to 2 and check that remote operation is not possible.
d. Set the remote controller to the TAPE-2 mode and check that remote operation is possible.

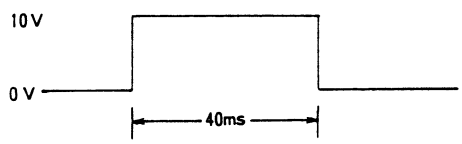
4.10 EASY OUT OPERATION

a. Connect amp (PM333) to the EASY OUT jack (JH23). Set the REMOTE switch of the cassette deck to 1.
b. Set the FUNCTION switch of amp (PM333) to TUNER.
c. When the tape deck is set to the PLAY mode, the FUNCTION of the amp (PM333) should automatically be changed to TAPE-1.
NOTE:
By setting the REMOTE switch (SH01), the output at pin ⑮ of microprocessor (QU20) should be changed as follows.

(SH01) At 1



(SH01) At 2

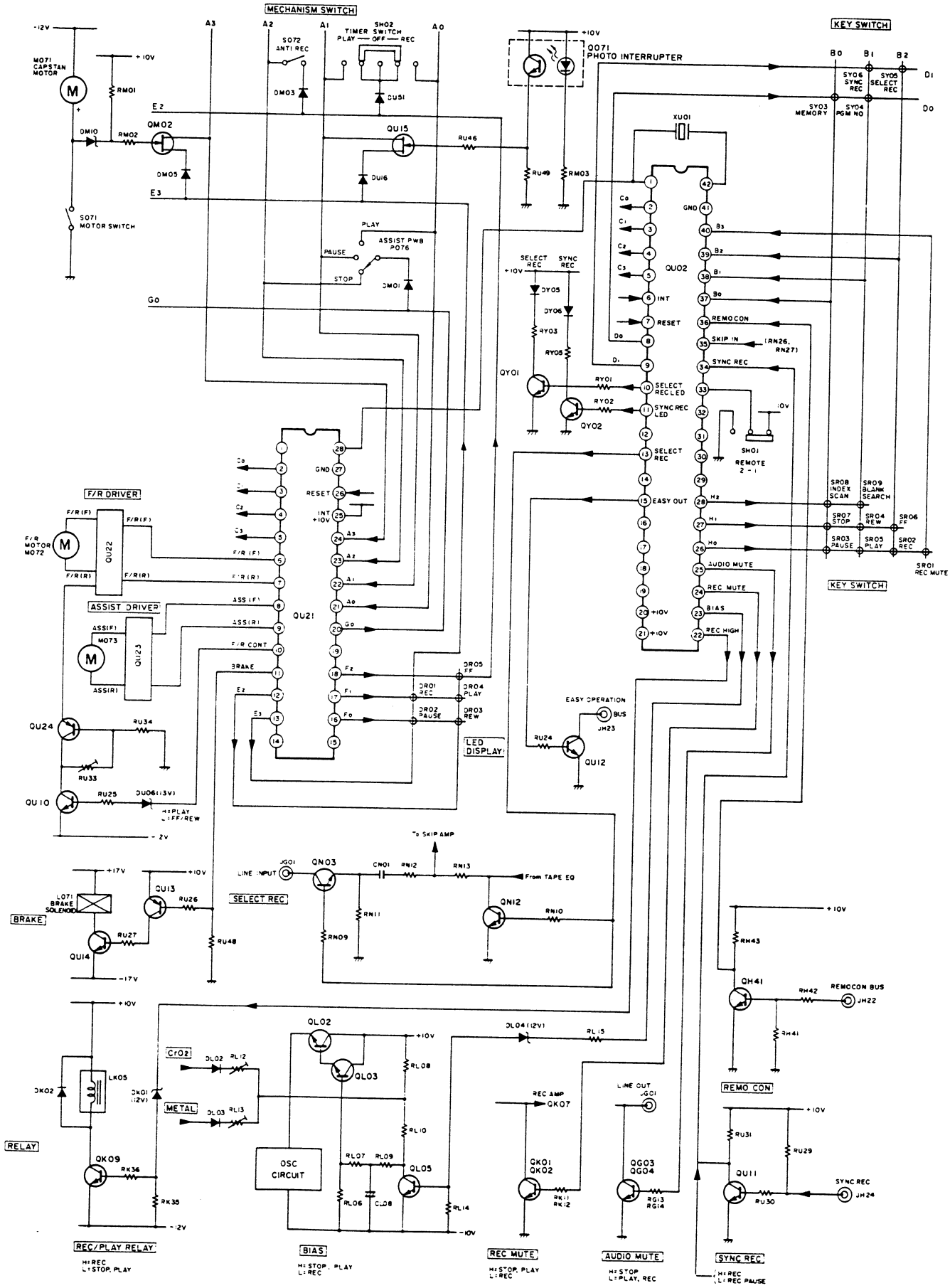


4.11 INTERRUPT OPERATION

a. Set the unit to the PLAY or REC mode.
b. When the POWER switch is set to OFF, the output voltage at pin ⑥ of QU20 rapidly decreases.
c. The microprocessor (QU20) detects that the POWER switch is turned OFF.
d. The STOP commands are fed from pins ②, ③, ④ and ⑤ of QU20 to pins ②, ③, ④ and ⑤ of QU21.
e. The motor starts rotating then the brake functions for 400ms to stop the mechanism.

- If the output at pin ⑥ does not decrease rapidly or does not change, the mechanism does not stop.
(The inputs/outputs of microprocessors (QU20, QU21) are as follows:
Low level (L) 5.7V
High level (H) 8.0V

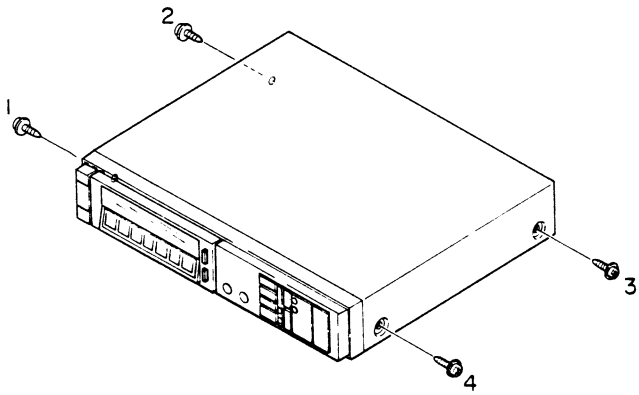
MICROPROCESSOR CONNECTION DIAGRAM



5. DISASSEMBLY

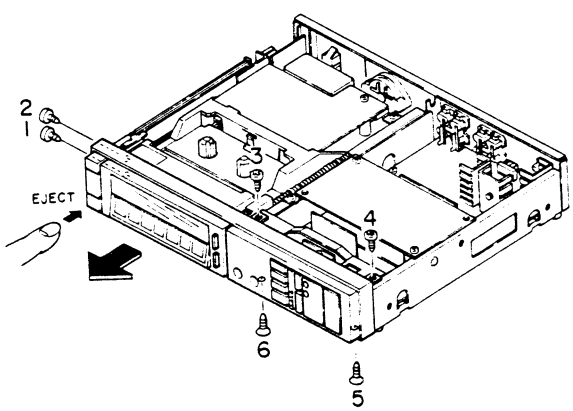
5.1 REMOVING THE TOP COVER

Remove the four screws 1~4.



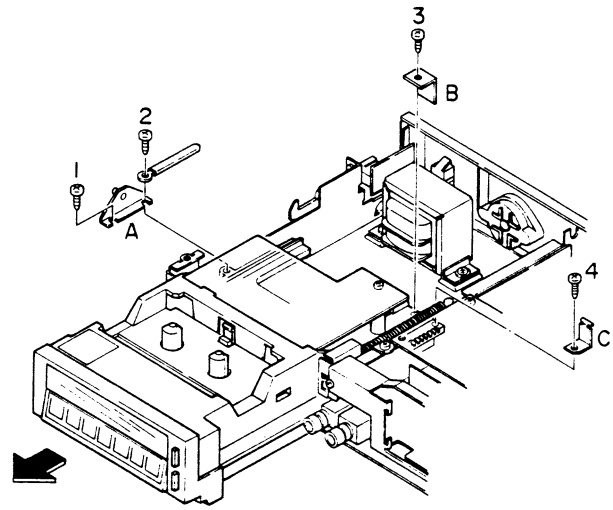
5.2 REMOVING THE FRONT PANEL

Set the unit to EJECT mode and remove six screws 1~6.



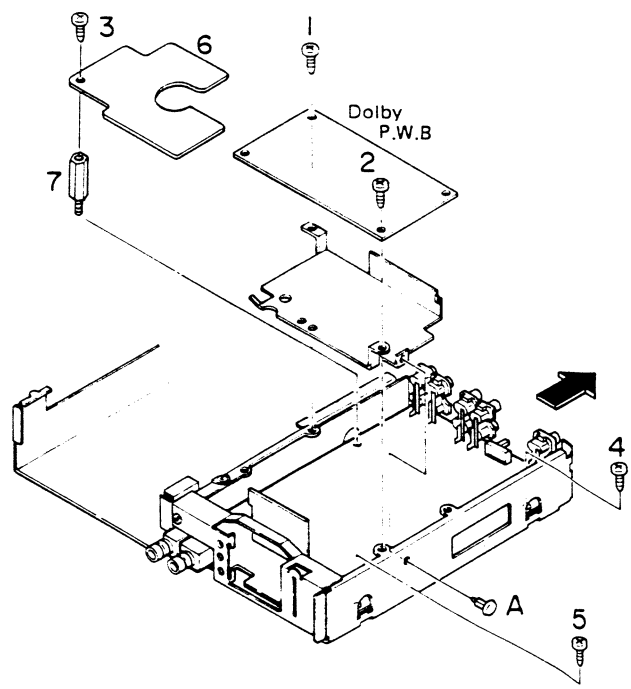
5.3 REMOVING THE MECHANSIM

Remove four screws 1~4 which fix brackets A, B and C and pull out the mechanism to the front.



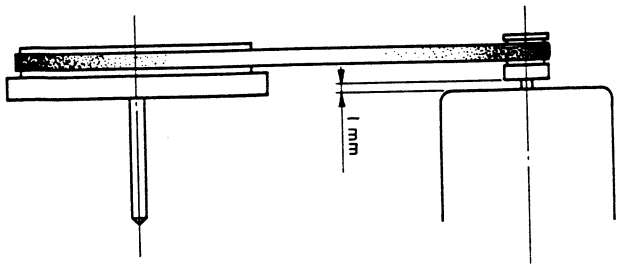
5.4 REMOVING THE P.W. BOARD

Remove two screws 1~2 and clamper A and remove Dolby P.W.Board and bracket.
Remove three screws 3~5, and pull out Main P.W.Board to the rear.



6. MECHANICAL ADJUSTMENT

6.1 MAIN MOTOR PULLEY POSITION ADJUSTMENT

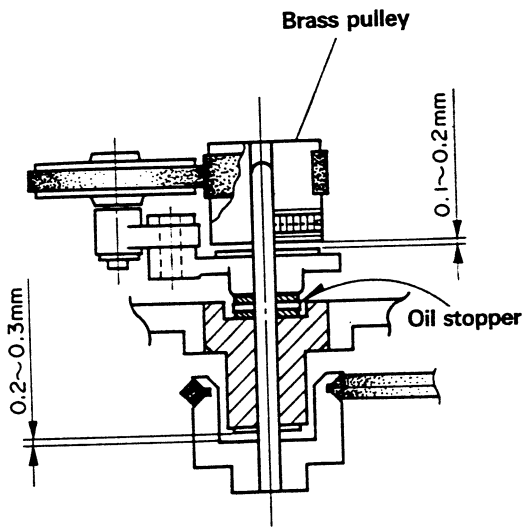


After installing the motor pulley, engage the belt with motor and flywheel. Position the pulley so that the belt is positioned at the center of the pulley when the flywheel is rotated a few times.
Note that the clearance between the motor and pulley is approximately 1mm.

6.2 F/R ARM ASSEMBLY REPLACEMENT

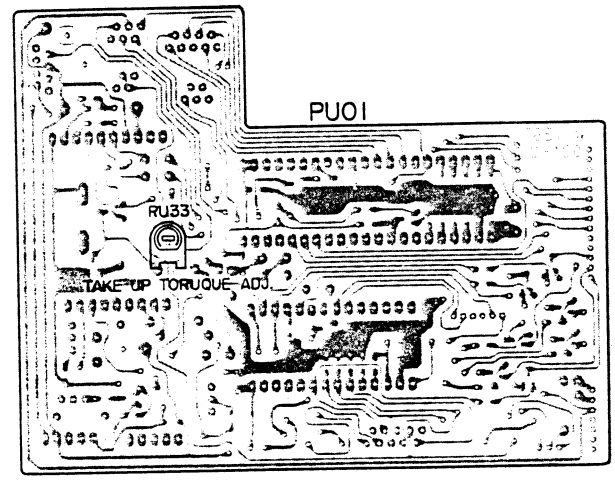
The construction of the F/R arm assembly is as shown in figure below. When replacing the F/R arm assembly, pay attention to the following points.

1. The nylon stopper is lightly pressed in. Adjust the oilless stopper is positioned so that the clearance between the thrust play between the Deline bearing and pulley is 0.2~0.3mm.
2. Install the brass pulley so that there is a gap of 0.1~0.2mm between the polyethylene washer on the F/R arm and pulley.
3. When inserting the F/R arm assembly onto the shaft, wipe off grease from the shaft. If the shaft is stained with oil, the swing torque of the F/R arm will be reduced.



6.3 PLAYBACK TAKE-UP TORQUE ADJUSTMENT

Turn the trimmer reisistor RU33 on the power supply P.W. Board PU01 to adjust the playback take-up torque.
The max. take-up torque of this mechanism is about 20 g.cm. Adjust the take-up torque so that the center of the fluctuation is 35 - 50 g.cm.



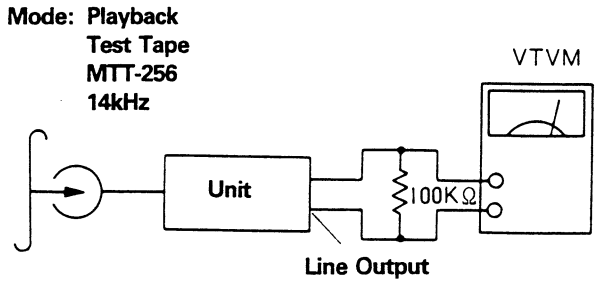
7. ELECTRICAL ADJUSTMENT

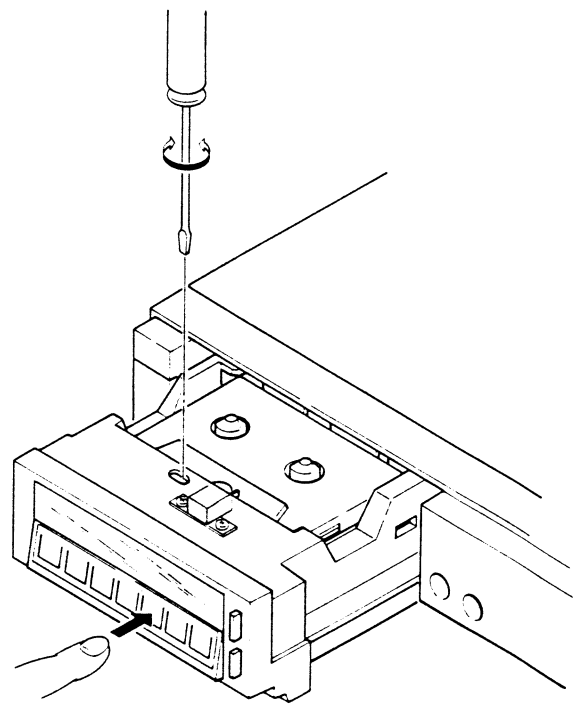
Precautions before adjustment

1. Before playing the test tape back, thoroughly demagnetize the heads, capstan and similar metal parts using an eraser as the test trape-recorded tone is easily erased.
2. Do not place the test tape on any measuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization:
   Turn the eraser power switch on at a remote position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn the power switch off.
5. Do not use any magnetize it from time to time in the course of each adjustment.
6. Do not turn semi-fixed resistor more than needed.
7. Do not apply locking bond excessively.

7.1 HEAD AZIMUTH ADJUSTMENT

1. Pull out the cassette compartment as shown below.
2. Play the 14kHz signal of the test tape MTT256 back. Adjust the head azimuth adjusting screw for maximum VTVM reading.
3. If the peak output reads of the right and left channels are different, set the screws to obtain the mechanical center between the peaks.
4. Then, lock the screws with bond.
5. After adjustment, repeat the playback and stop setting a few times to make certain of no head azimuth deviation.



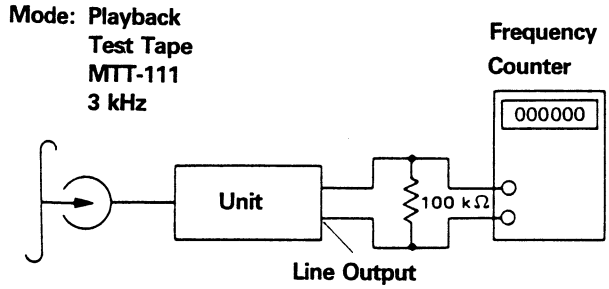


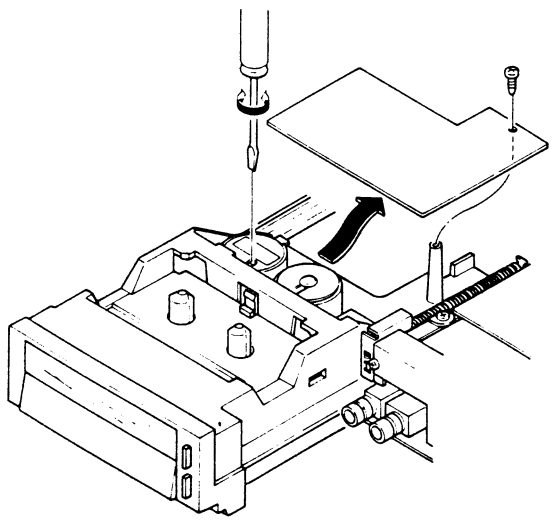
7.2 TAPE SPEED ADJUSTMENT

Play the 3 kHz signal of the test tape MTT-111 back. Adjust the tape speed adjusting resistor inside the motor (M071) for 2990 to 3010 Hz counter indication.

NOTES:

1. **If a strong shock of similar vibration is applied to the back after adjustment, make certain that the measured tape speed had not changed.**
2. **Be careful that the frequency counter may indicate a wrong value because of too low counter input level.**
3. **Before adjustment, allow for 30 seconds or more after depressing of the PLAY button.**



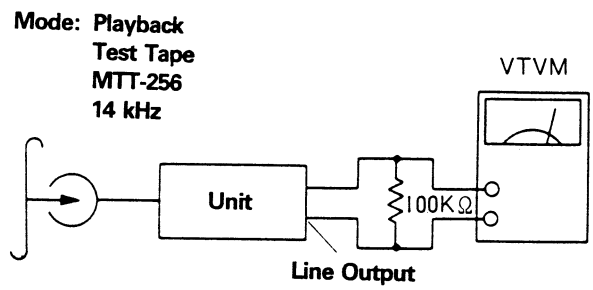


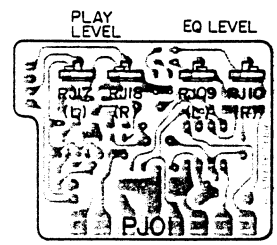
7.3 PLAYBACK EQUALIZER ADJUSTMENT

1. Play the 315 Hz signal of the test tape MTT-256 back. Let the 315 Hz signal level be reference as 0 dB.
2. Play the 12.5 kHz signal of the test tape MTT-256 back. Adjust RJ09 (L) and RJ10 (R) (5 kΩ each) for 12.5 kHz frequency response of 0 to −1dB inreference to the 315 Hz signal level.

NOTES:

1. **Proceed both for the right and left channels in the same way.**
2. **Note that clockwise tuning of RJ09 (L) and RJ10 (R) will increase the 12.5 kHz signal output level.**





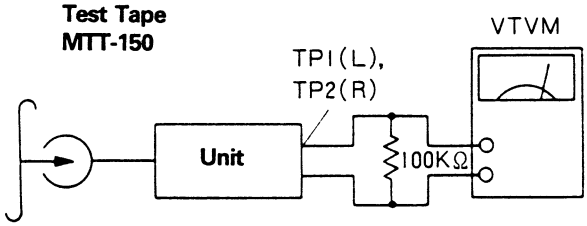
7.4 PLAYBACK LEVEL ADJUSTMENT

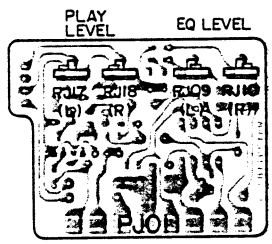
1. Play back test tape MTT-150 and adjust RJ17 (L) and RJ18 (R) (50kΩ) so that the playback level at TP1 (L) and TP2 (R) is 390mV.

NOTES:

1. **Proceed both for the right and left channels in the same way.**
2. **For details refer to "Playback equalizer adjustment".**

Mode: Playback
Test Tape
MTT-150



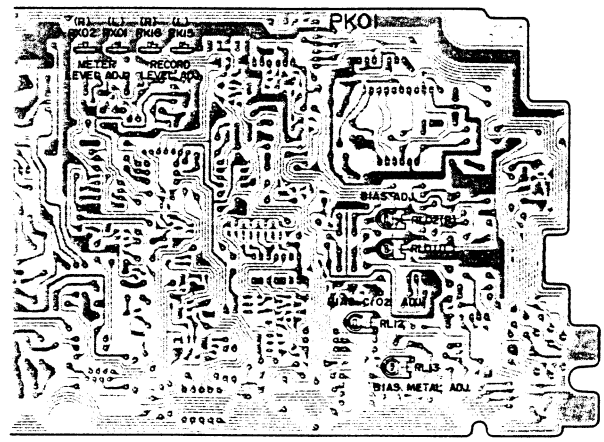


7.5 LED PEAK LEVEL METER ADJUSTMENT

1. Follow the same procedures as in the "Playback level adjustment" section.
2. Adjust RX01 (L) and RX02 (R) (20kΩ each) for DC (+0dB) LED PEAK LEVEL meter reading.

NOTE:

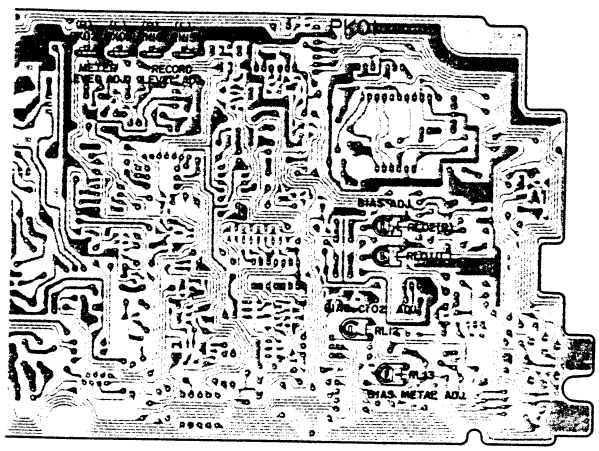
The PEAK LEVEL meter indicates both the right and left channels. Measure with the indipendent right and left input.



7.6 RECORD/PLAYBACK LEVEL ADJUSTMENT

1. Load a normal tape.
2. Apply a signal of 1 kHz, −60dBV to the MIC jack and set the unit to the REC mode.
3. Adjust the REC LEVEL control so that the PEAK LEVEL meter reads 0dB.
4. Play back the recorded tape and adjust RK15 (L) and RK16 (R) so that the PEAK LEVEL meter reads the same level as the monitor.

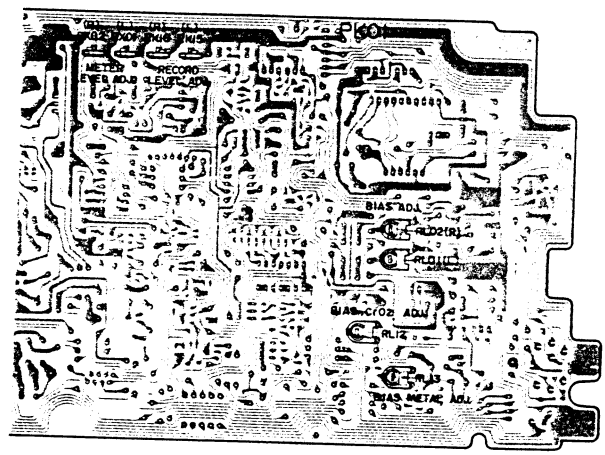
NOTE:
Adjust both the right and left channels in the same way.



7.7 RECORD/PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

1. Load a normal tape.
2. Apply a signal of 1 kHz, −60dBV to the MIC jack and set the unit to the REC PAUSE mode.
3. Adjust the REC LEVEL control so that the PEAK LEVEL meter reads 0dB.
4. Attenuate the AF oscillator output level by 20dB. (The AF oscillator output is 0.1mV.)
5. Press the PAUSE button to start recording.
6. Record a signal of 1 kHz for about 10 seconds and set the AF oscillator output to 10 kHz.
7. Rewind and play back the tape and adjust the bias adjusting trimmer resistor so that the 10 kHz output level is 0dB — −1dB with respect to the 1 kHz signal.
8. Load a CrO_2 tape and repeat steps 6 — 7.
9. Perform the same procedures with metal tape.

Kinds of tapes	Adjustment points
NORMAL	RL01 (L), RL02 (R)
CrO_2	RL12 (L/R)
METAL	RL13 (L/R)



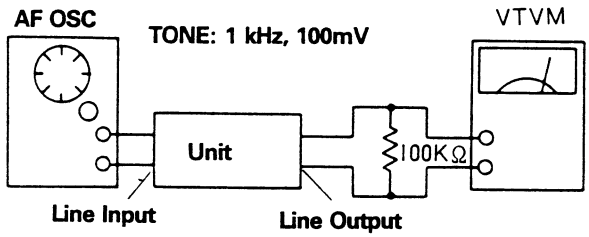
7.8 MPX FILTER ADJUSTEMENT

1. Connect the 1kHz, 100mV input signal to the LINE INPUT jack. Adjust the REC LEVEL control for 0dB meter reading.
2. Adjust the line output level for 0dB.
3. Adjust L601 (L) and L602 (R) in P601 for minimum output level.

NOTES:

1. **Proceed both for the right and left channels in the same way.**
2. **If the filter Response is better than 30dB, the MPX filter needs not to be adjusted.**

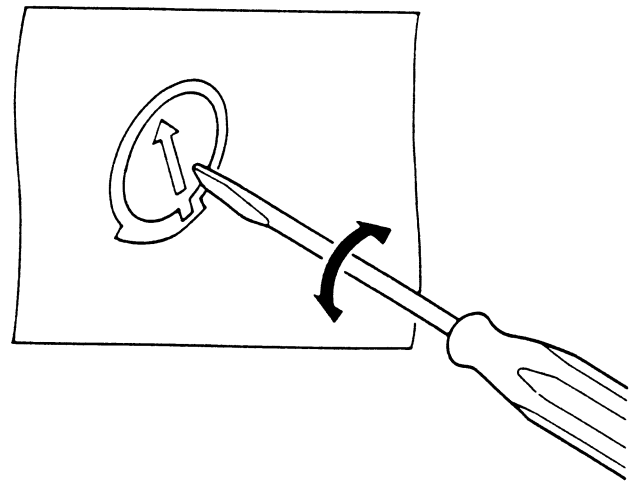
Mode: record

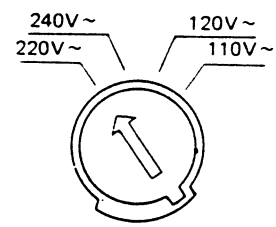


8. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.





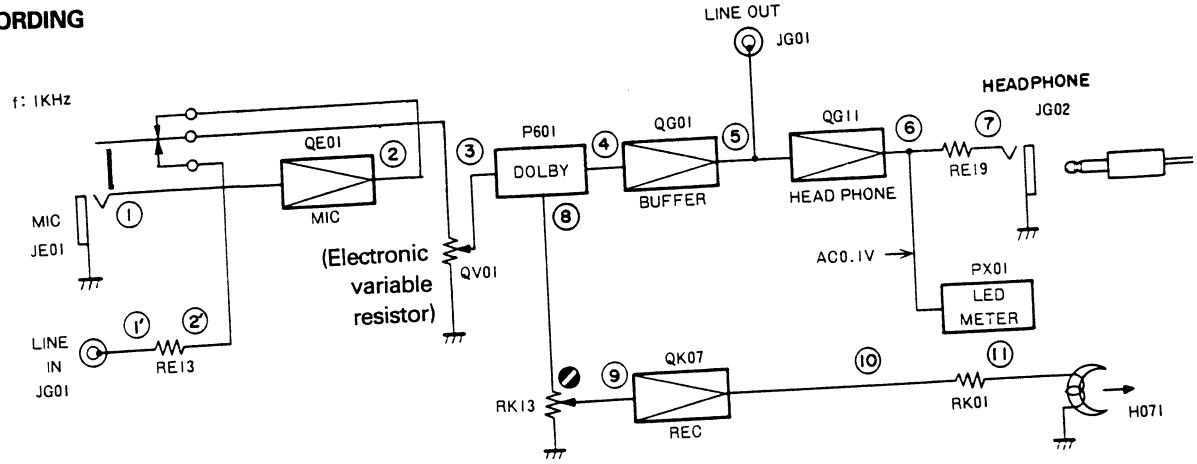
(N.T.A.P) VERSION

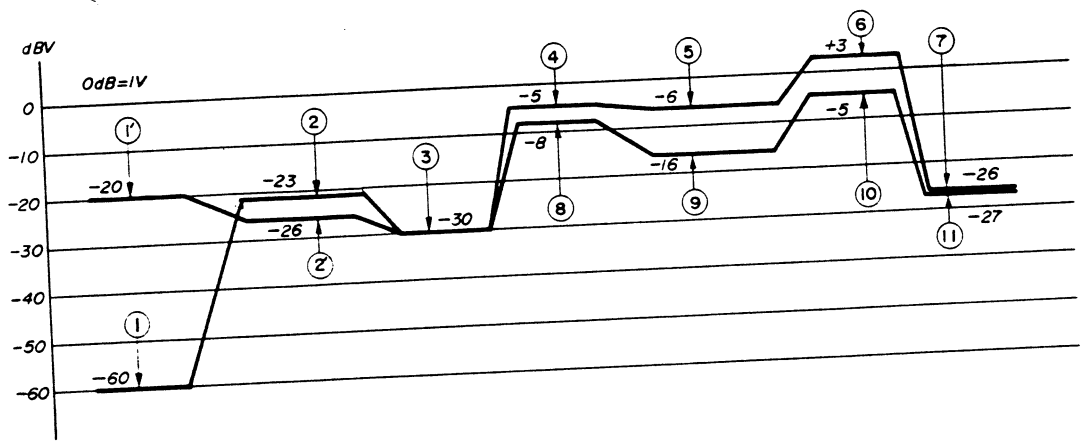
NOTE ON SAFETY:
SYMBOL⚠ FIRE OR ELECTRICAL SHOCK HAZARD. ONLY ORIGINAL PARTS SHOULD BE USED TO REPLACE ANY PART MARKED WITH SYMBOL⚠. ANY OTHER COMPONENT SUBSTITUTION (OTHER THAN ORIGINAL TYPE), MAY INCREASE RISK OF FIRE OR ELECTRICAL SHOCK HAZARD.

9. DIAGRAMS

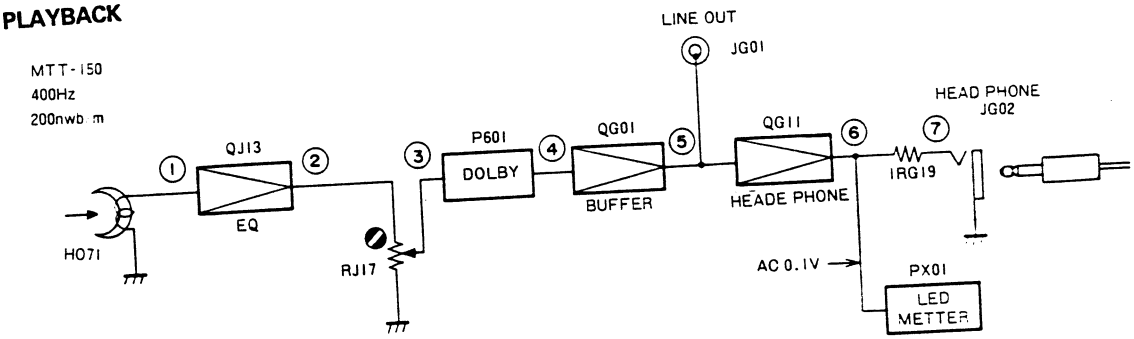
9.1 BLOCK/LEVEL DIAGRAMS

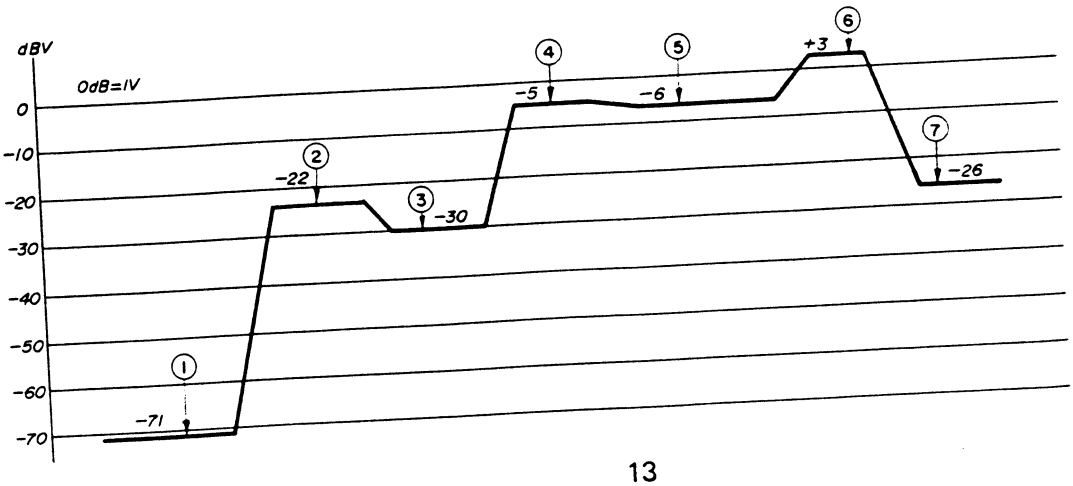
RECORDING

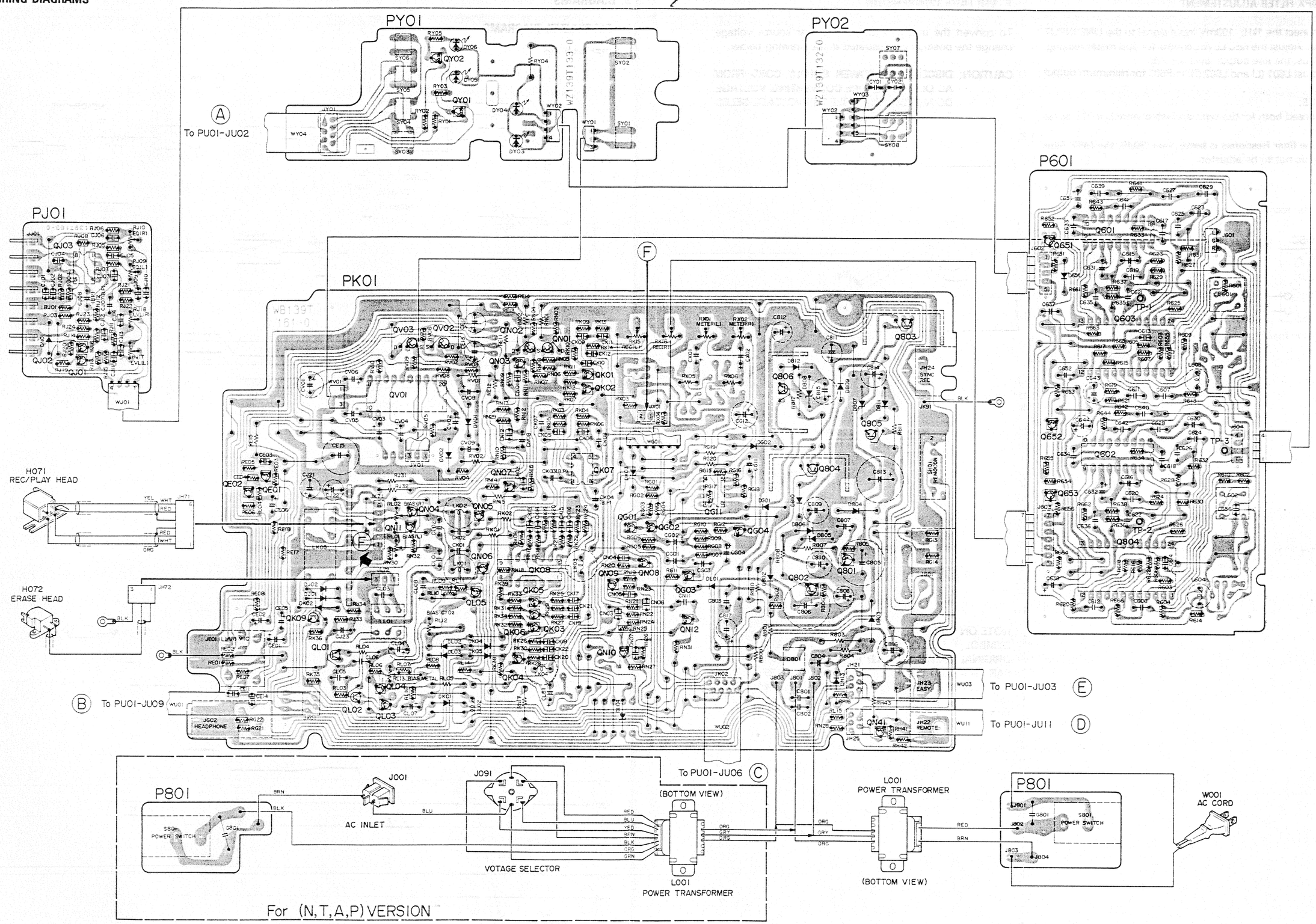


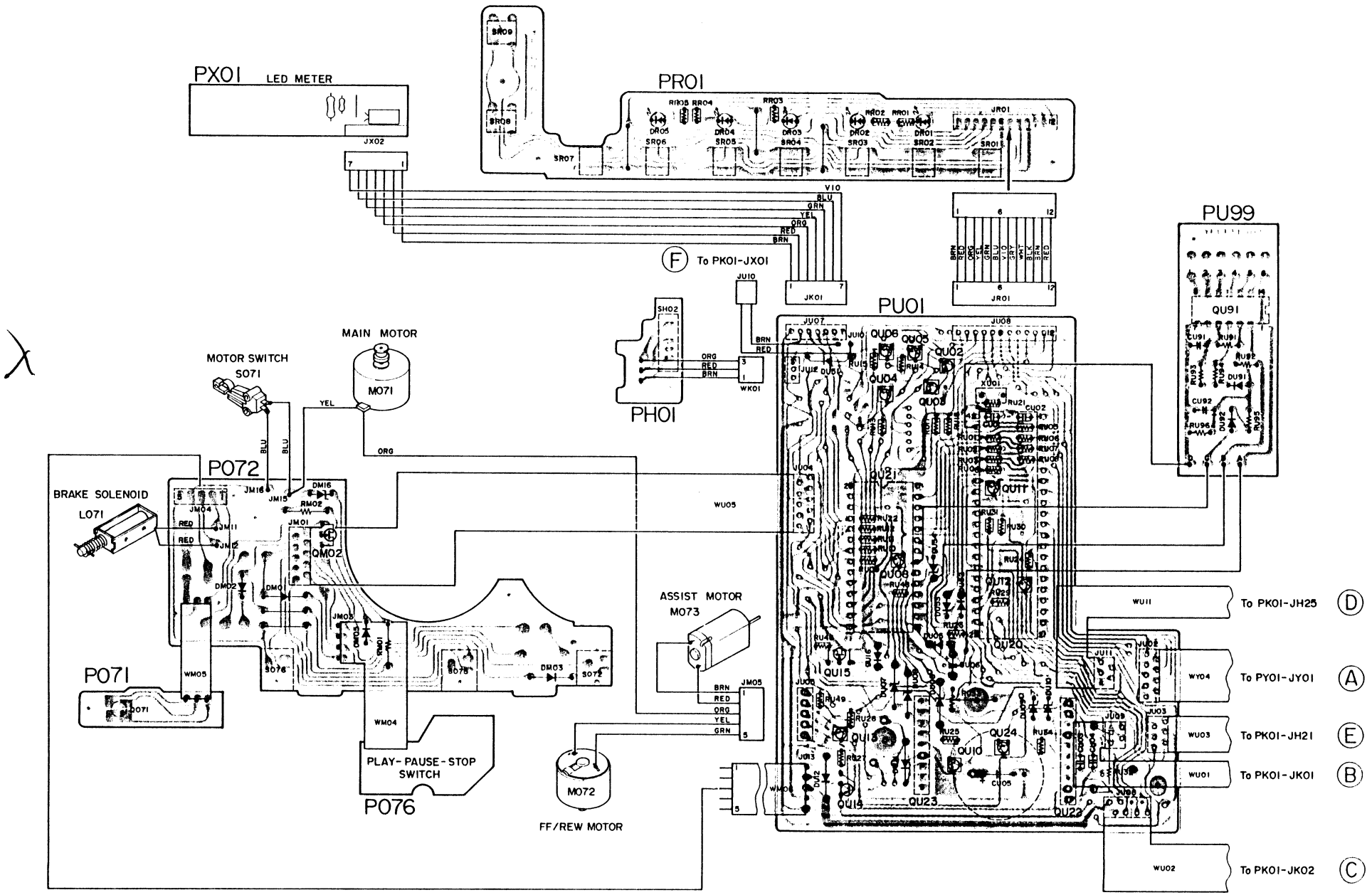


PLAYBACK



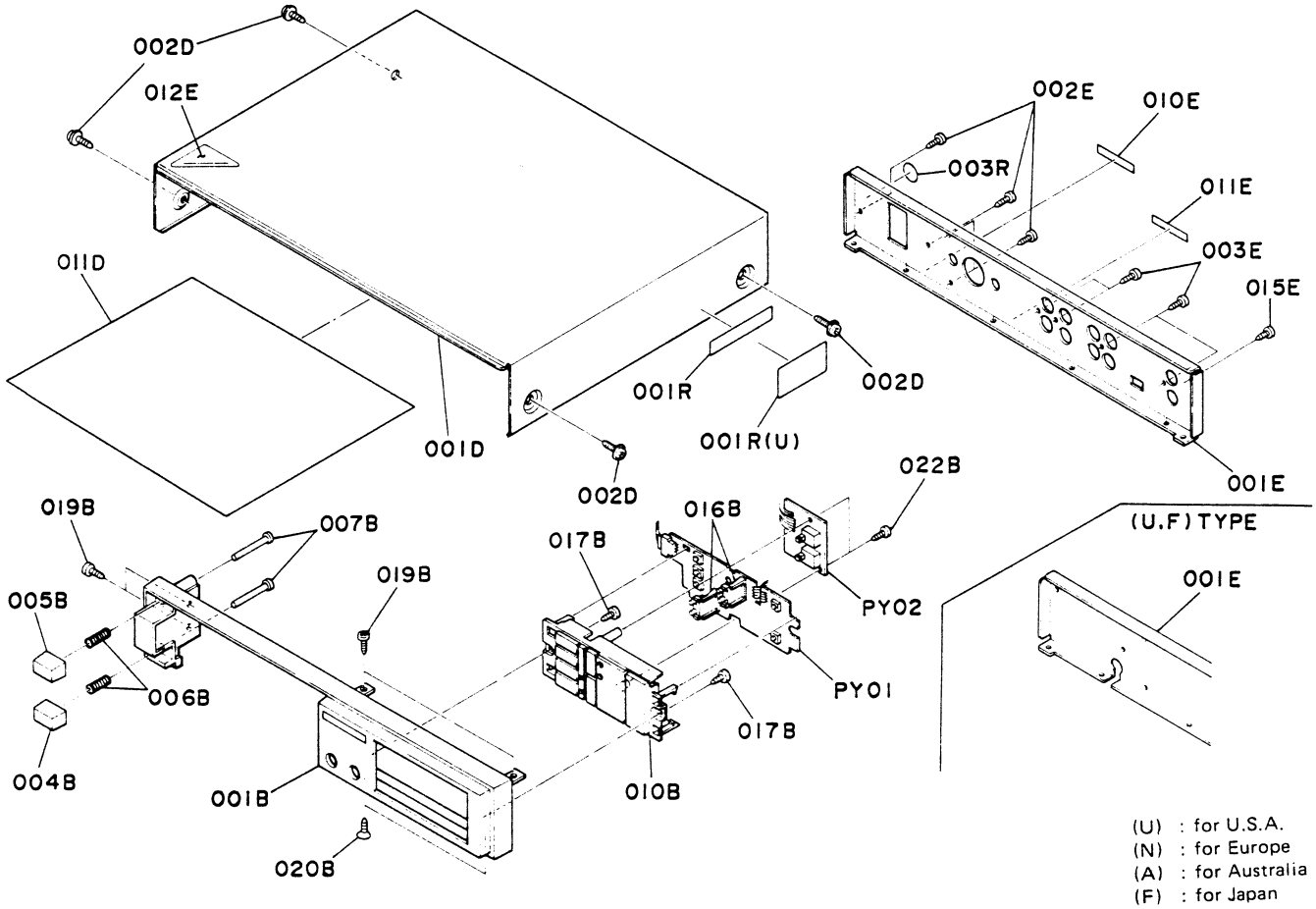



PY01
PY02
P601
PJ01
PK01
Q601
Q602
Q603
Q651
Q652
Q653
Q801
Q802
Q803
Q804
Q805
Q806
TP-1
TP-2
TP-3
H071
REC/PLAY HEAD
H072
ERASE HEAD
To PU01-JU02
To PU01-JU09
To PU01-JU03
To PU01-JU11
To PU01-JU06
P801
J001
AC INLET
J091
VOTAGE SELECTOR
L001
POWER TRANSFORMER
(BOTTOM VIEW)
S801
POWER SWITCH
W001
AC CORD
For (N,T,A,P) VERSION
CHIP PARTS


PX01
LED METER
JX02
PR01
JR01
JK01
F
To PK01-JX01
PU01
PU99
QU91
MOTOR SWITCH
S071
MAIN MOTOR
M071
PH01
WK01
BRAKE SOLENOID
L071
P072
QM02
P071
ASSIST MOTOR
M073
PLAY-PAUSE-STOP
SWITCH
P076
M072
FF/REW MOTOR
WU11
To PK01-JH25
D
WY04
To PY01-JY01
A
WU03
To PK01-JH21
E
WU01
To PK01-JK01
B
WU02
To PK01-JK02
C

10. EXPLODED VIEWS AND PARTS LIST

[C01-99] FRONT/REAR PANEL AND TOP COVER

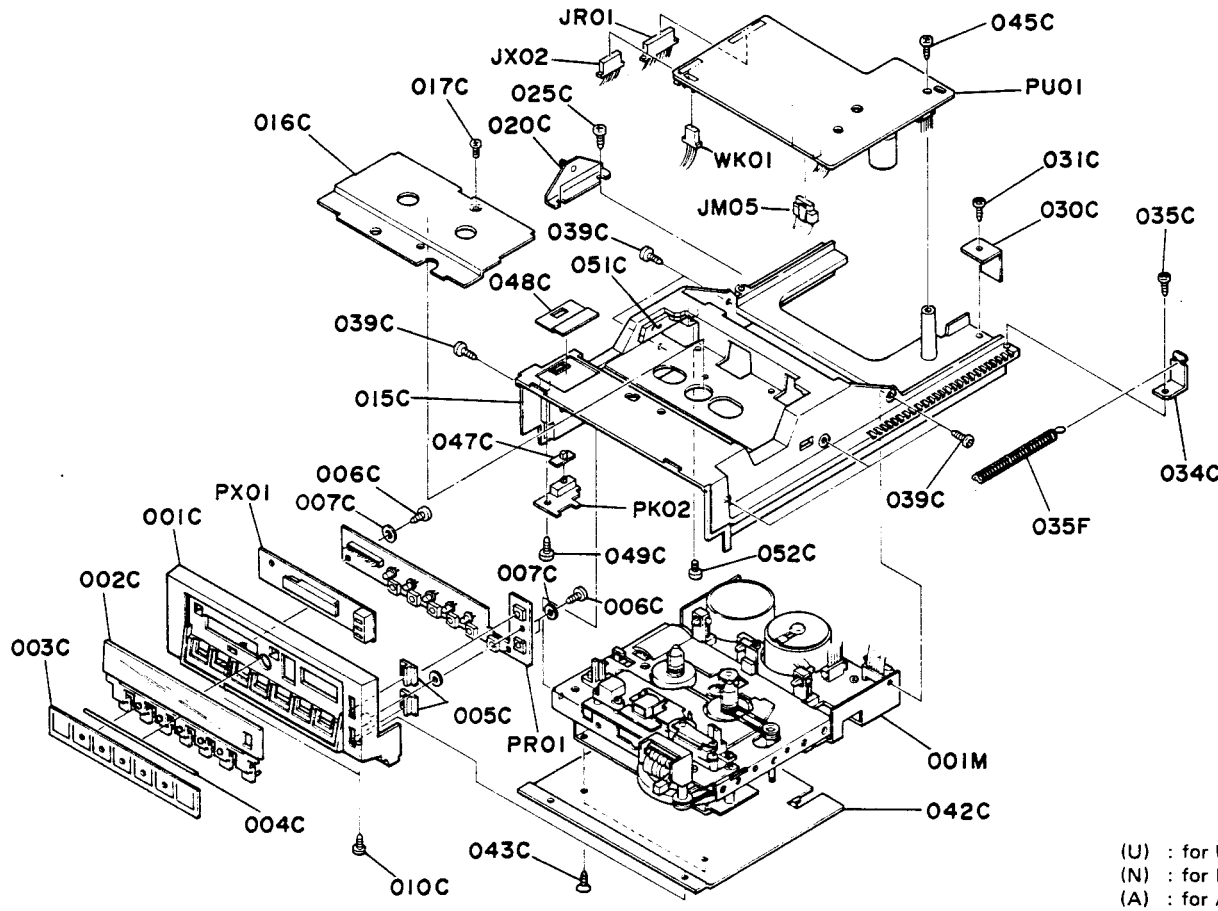


(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
A	1	1	1	1	139T063400	Front Panel Assembly, Gold
A1				1	139T063410	Front Panel Assembly, Bronze
001B	1	1	1	1	139T063010	Escutcheon, Front Panel (G)
001B				1	139T063110	Escutcheon, Front Panel (B)
004B				1	139T154150	Knob, Eject, Bronze
004B	1	1	1	1	139T154050	Knob Eject, Gold
005B	1	1	1	1	139T154350	Knob Power, Gold
005B				1	139T154250	Knob, Power, Bronze
006B	2	2	2	2	139T115020	Spring
007B	2	2	2	2	139T254010	Pin
010B	1	1	1	1	139T259500	Bushing Assembly, Gold
010B				1	139T259510	Bushing Assembly, Bronze
016B	2	2	2	2	139T118010	Spacer, L.E.D.
017B	2	2	2	2	5128260680	B.H. Tapped Screw B2.6 x 6
019B	4	4	4	4	5128030680	B.H. Tapped Screw B3 x 6
020B	2	2	2	2	51500306B0	F.H. Taptite Screw(G) F3 x 6
020B				2	51500308U0	F.H. Taptite Screw(B) F3 x 8
022B	2	2	2	2	5128260680	B.H. Tapped Screw B2.6 x 6

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
001D	1	1	1	1	139T257030	Lid, Top Cover; Gold
001D				1	139T257130	Lid, Top Cover; Bronze
002D	4				51260306Z0	B.T. Screw B3 x 6
002D		4	4	4	51260306U0	B.T. Screw B3 x 6
011D	1	1	1	1	139T120020	Insulator
001E	1				139T160230	Bracket, Rear Panel
001E		1	1		139T160220	Bracket, Rear Panel
001E				1	139T160210	Bracket, Rear Panel
002E	4	4	4	4	5128030880	B.H. Tapped Screw B3 x 8
003E	4	4	4	4	5128030880	B.H. Tapped Screw B3 x 8
010E	1	1	1	1	2112265010	Indicator
011E	1				2457861040	Label, CSA
011E		1	1		4581861010	Label, Made in Japan
012E	1				113T861010	Label, 2 Year
015E	1	1	1	1	5128030480	B.H. Tapped Screw B3 x 4
001R	1				117H861010	Label
001R		1	1		2932861110	Label
003R	1				9511101070	Label, UL

[C02-99] MECHA CASE

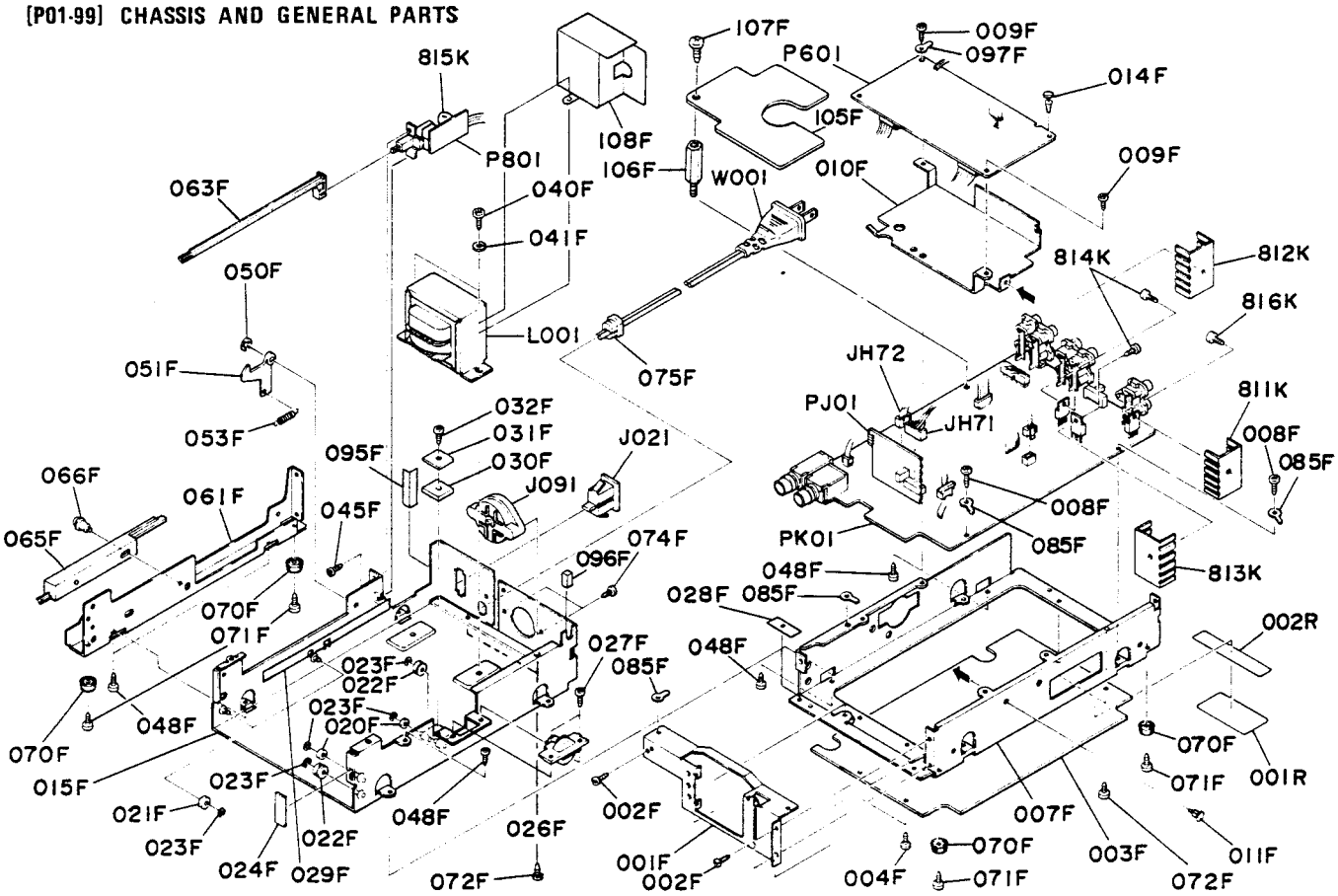


(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
B	1	1	1	1	139T063420	Mecha Front Assembly,Gold
B1				1	139T063430	Mecha Front Assembly,Bronze
001C	1	1	1	1	139T063020	Escutcheon, Mecha Front, (G)
001C				1	139T063120	Escutcheon, Mecha Front, (B)
002C	1	1	1	1	139T158010	Window, L.E.D. Meter
003C	1	1	1	1	139T127010	Control Board
004C	1	1	1	1	139T201010	Division
005C	2	2	2	2	143T154210	Knob, Mode SW.
006C	3	3	3	3	51302606B0	P.H. Tapped Screw P2.6 x 6
007C	3	3	3	3	59030303P0	Washer
010C	2	2	2	2	51282606U0	B.H. Tapped Screw B2.6 x 6
015C	1	1	1	1	139T064010	Case, Mecha; Gold
015C				1	139T064110	Case, Mecha; Bronze
016C	1	1	1	1	139T274010	Refrector, Gold
016C				1	139T274110	Refrector, Bronze
017C	1	1	1	1	51870306B0	O.C.H Tapped Screw B3x6
017C				1	51870306U0	O.C.H. Tapped Screw B3x6
020C	1	1	1	1	139T160500	Bracket Assembly

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
025C	2	2	2	2	51302606B0	P.H. Tapped Screw P2.6 x 6
030C	1	1	1	1	139T114020	Stopper
031C	1	1	1	1	51280306B0	B.H. Tapped Screw B3 x 6
034C	1	1	1	1	139T160030	Bracket
035C	1	1	1	1	51280306B0	B.H. Tapped Screw B3 x 6
039C	7	7	7	7	51282605B0	B.H. Tapped Screw B2.6 x 5
C39C				7	51282605U0	B.H. Tapped Screw B2.6 x 5
042C	1	1	1	1	139T257010	Lid, Mecha
043C	2	2	2	2	51502606B0	B.H. Tapped Screw B2.6 x 6
045C	1	1	1	1	5128030880	B.H. Tapped Screw B3 x 8
047C	1	1	1	1	139T154110	Knob, Timer; Gold
047C				1	139T154210	Knob, Timer; Bronze
048C	1	1	1	1	139T265010	Indicator, Gold
048C				1	139T265110	Indicator, Bronze
049C	1	1	1	1	5128260680	B.H. Tapped Screw B2.6 x 6
051C	1	1	1	1	139T051010	Guide, Cassette; Gold
051C				1	149T051210	Guide, Cassette; Bronze
052C	1	1	1	1	5128260680	B.H. Tapped Screw B2.6 x 6
035F	1	1	1	1	139T115010	Spring
001M	1	1	1	1	316Y304010	Mechanism Assembly
PX01	1	1	1	1	HI10901020	L.E.D.
JM05	1	1	1	1	YB00120080	Connective Cord, (5P)
JR01	1	1	1	1	YB00300670	Connective Cord, (12P)
JX02	1	1	1	1	YB00300600	Connective Cord, (7P)
WK01	1	1	1	1	YB00300690	Connective Cord, (3P)

[P01-99] CHASSIS AND GENERAL PARTS

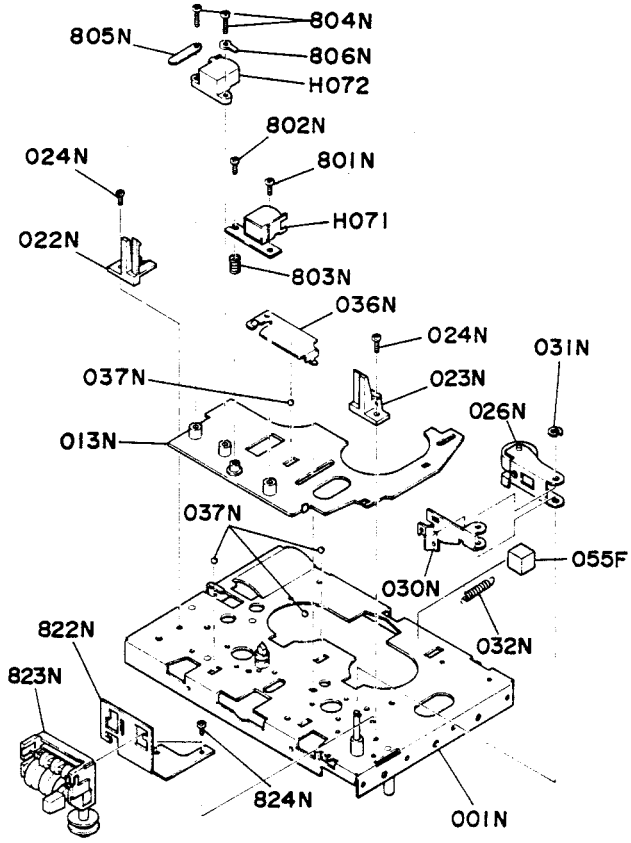


REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
001F	1	1	1	1	139T160010	Bracket, Front
002F	3	3	3	3	5128030680	B.H. Tapped Screw B3 x 6
003F	1	1	1	1	139T257020	Lid, Bottom Cover
004F	2	2	2	2	5128030680	B.H. Tapped Screw B3 x 6
007F	1	1	1	1	139T105020	Chassis
008F	2	2	2	2	5128030680	B.H. Tapped Screw B3 x 6
009F	2	2	2	2	5128030680	B.H. Tapped Screw B3 x 6
010F	1	1	1	1	139T109010	Shield
011F	1	1	1	1	2276005050	Clamper
014F	1	1	1	1	139T114030	Stopper
015F	1	1	1	1	139T105500	Chassis
020F	2	2	2	2	139T358030	Roller
021F	2	2	2	2	139T358010	Roller
022F	2	2	2	2	139T358020	Roller
023F	6	6	6	6	64002500R0	RG Ring, E Type
024F	1	1	1	1	139T107020	Insulator
026F	1	1	1	1	136T263010	Brake
027F	2	2	2	2	5150030880	B.H. Tapped Screw B3 x 8
029F	1	1	1	1	139T107010	Sheet
030F	1	1	1	1	113T060010	Clinger
031F	1	1	1	1	139T114010	Stopper
032F	1	1	1	1	5128030880	B.H. Tapped Screw B3 x 8
040F	2	2	2	2	5128040880	B.H. Tapped Screw B4 x 8
041F	2	2	2	2	54040402N0	Spring Washer
045F	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
048F	5	5	5	5	5128030680	B.H. Tapped Screw B3 x 6
050F	1	1	1	1	64000300R0	RG Ring, E Type
051F	1	1	1	1	113T258010	Hook
053F	1	1	1	1	4367115240	Spring
061F	1	1	1	1	139T126010	Stay, (L)

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
063F	1	1	1	1	139T121010	Link, Power Switch
065F	1	1	1	1	139T121020	Link, Eject
066F	1	1	1	1	4367112150	Shaft
070F	4	4	4	4	240H057010	Leg
071F	4	4	4	4	5128030880	B.H. Tapped Screw B3 x 8
072F	4	4	4	4	5128030680	B.H. Tapped Screw B3 x 6
074F		2	2		5128030880	B.H. Tapped Screw B3 x 6
075F	1			1	1455259030	Bushing, AC Cord
085F	4	4	4	4	62031340W0	Lug
095F	1	1	1	1	139T269010	Protector
096F	1	1	1	1	139T259020	Bushing
097F	1	1	1	1	4220005040	Clamper
105F	1	1	1	1	139T201020	Division
106F	1	1	1	1	2888101020	Support
107F	1	1	1	1	51100306A9	B.H.M. Screw B3 x 6
108F		1	1		139T120040	Insulator
811K	1	1	1	1	202H267030	Heatsink
812K	1	1	1	1	202H267030	Heatsink
813K	1	1	1	1	202H267030	Heatsink
814K	2	2	2	2	5128030680	B.H. Tapped Screw B3 x 6
815K		1	1		2139120020	Insulator
816K	1	1	1	1	5128030880	B.H. Tapped Screw B3 x 8
001R	1				117H861010	Label
002R		1	1		2578861010	Label
⚠J021		1	1		YP04000580	Plug, AC Inlet
⚠J091		1	1		BY05080050	Voltage Selector
⚠L001	1				TS15409020	Power Transformer
⚠L001		1	1		TS15717030	Power Transformer
⚠L001				1	TS15409010	Power Transformer
⚠W001	1				YC01900070	A.C. Power Cord
⚠W001				1	YC01800190	A.C. Power Cord
JH71	1	1	1	1	YB00600170	Connective Cord, Rec/Play
JH72	1	1	1	1	YB00600180	Connective Cord, Erase

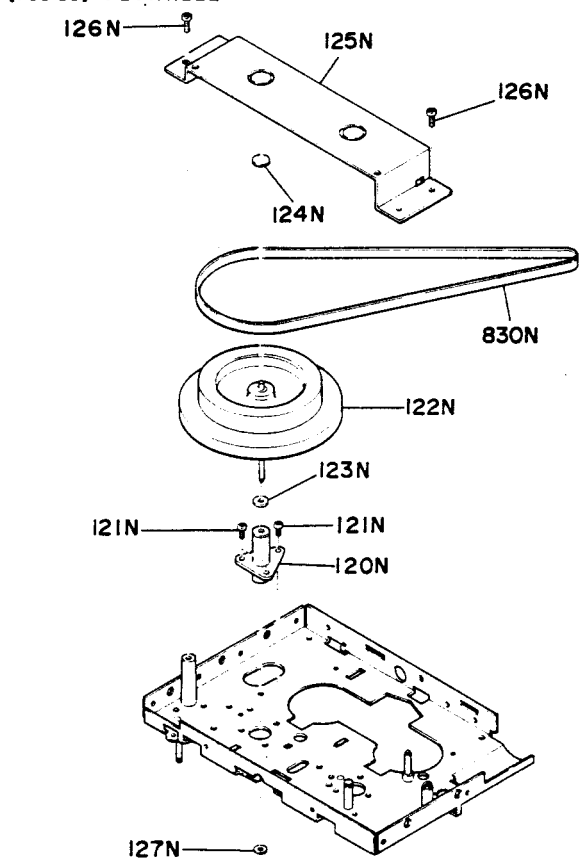
(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

[P02-99] HEAD CHASSIS



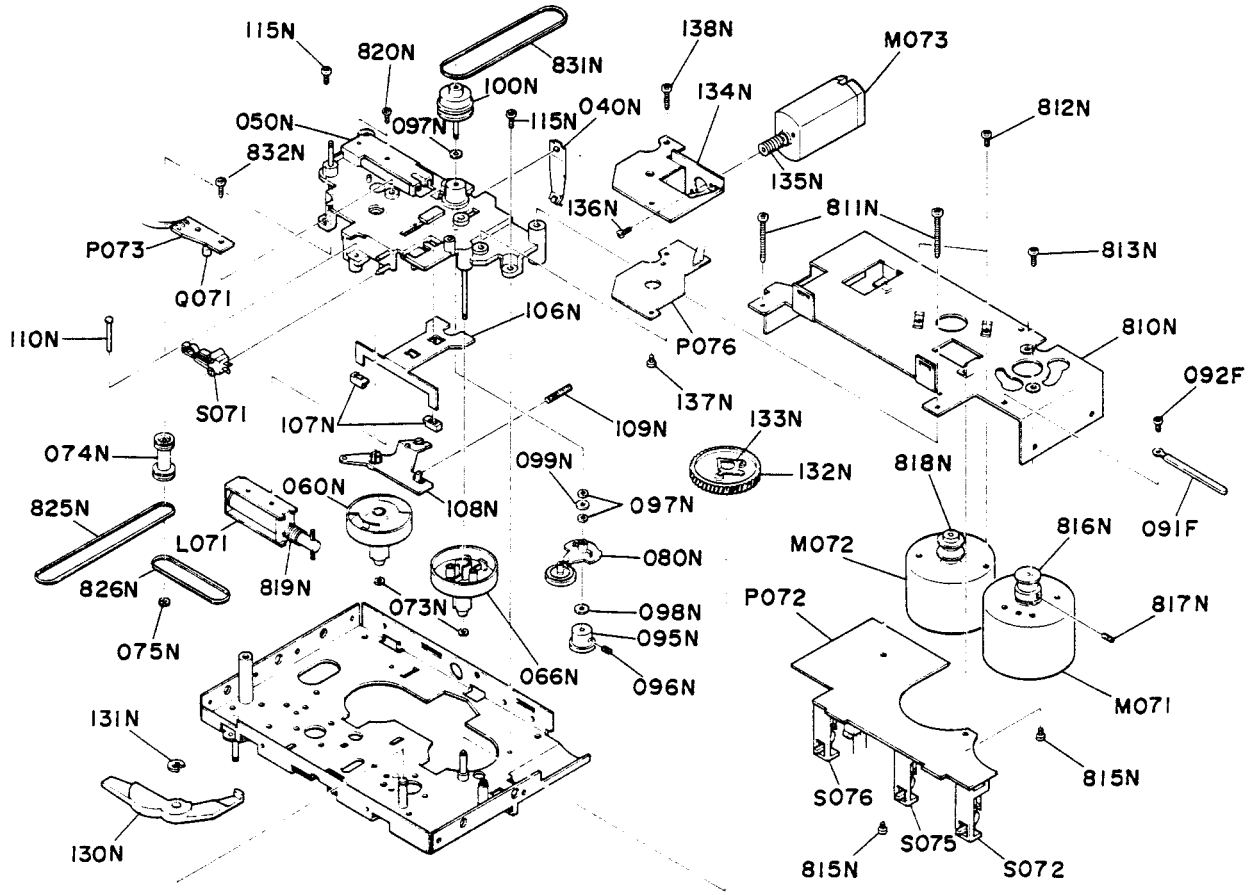
REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
001N	1	1	1	1	316Y105400	Chassis Assembly, Main
013N	1	1	1	1	316Y105410	Chassis Assembly, Head
022N	1	1	1	1	316Y104010	Retainer, (L)
023N	1	1	1	1	316Y104020	Retainer, (R)
024N	2	2	2	2	5159260580	B. Taptite Screw B2.6 x 5
026N	1	1	1	1	316Y002400	Arm Assembly, Pinch Roller
030N	1	1	1	1	316Y002020	ARm, Sub
031N	1	1	1	1	64002500R0	RG Ring, E Type
032N	1	1	1	1	316Y115040	Spring, Pinch Roller
036N	1	1	1	1	316Y115010	Spring, Head Chassis
037N	4	4	4	4	61025010T0	Ball
801N	1	1	1	1	51100204A0	B.H.M. Screw B2 x 4
802N	1	1	1	1	51190207A2	P.H.M. Screw P2 x 7
803N	1	1	1	1	316Y115030	Spring, Azimuth
804N	2	2	2	2	51100206A0	B.H.M. Screw B2 x 6
805N	1	1	1	1	4411005020	Clamper
806N	1	1	1	1	62021030W0	Lug
822N	1	1	1	1	316Y160050	Bracket, Counter
823N	1	1	1	1	102T052010	Counter
824N	2	2	2	2	5159260580	B. Taptite Screw P2.6 x 5
H071	1	1	1	1	LH42801120	Rec/Play Head
H072	1	1	1	1	LH31000580	Erase Head
055F	1	1	1	1	139T056020	Buffer

[P03-99] FLYWHEEL



REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
120N	1	1	1	1	316Y106010	Sustainer, Capstan
121N	3	3	3	3	5159260580	P. Taptite Screw P2.6 x 5
122N	1	1	1	1	316Y273010	Flywheel
123N	1	1	1	1	59264702G9	Washer
124N	1	1	1	1	316Y118010	Spacer, Thrust
125N	1	1	1	1	316Y104030	Retainer
126N	2	2	2	2	5159260580	B.Taptite Screw B2.6 x 5
127N	1	1	1	1	316Y114030	Stopper, Oil Fence
830N	1	1	1	1	316Y264010	Belt, Main

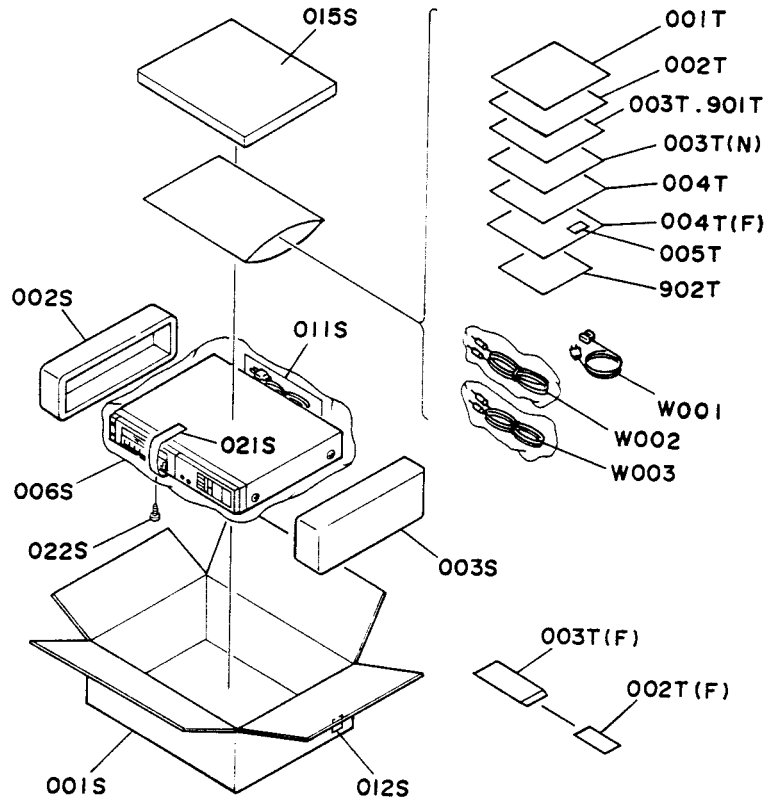
[P04-99] PARTS ASSEMBLED ON REVERSE OF CHASSIS



REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
040N	1	1	1	1	316Y115020	Spring
050N	1	1	1	1	316Y160400	Bracket Assembly, Reel
060N	1	1	1	1	316Y004510	Table, Take-up; (K)
066N	1	1	1	1	316Y004500	Table, Supply; (K)
073N	2	2	2	2	316Y114010	Stopper
074N	1	1	1	1	316Y262040	Pulley, Counter
075N	1	1	1	1	316Y114010	Stopper
080N	1	1	1	1	313Y002530	Arm, FF/REW; (K)
095N	1	1	1	1	313Y262050	Pulley, FF/REW
096N	1	1	1	1	51692603Q0	Socket Screw, HP
097N	3	3	3	3	59020402G9	Washer
098N	1	1	1	1	59020805G9	Washer
099N	1	1	1	1	313Y118010	Spacer
100N	1	1	1	1	316Y262400	Puller Assembly, FF/REW
106N	1	1	1	1	316Y354010	Lever, Brake
107N	2	2	2	2	4367263010	Brake
108N	1	1	1	1	316Y002030	Arm, Brake
109N	1	1	1	1	316Y115050	Spring
110N	1	1	1	1	316Y112050	Shaft, Cassette Switch
115N	2	2	2	2	5159260580	B.Taptite Screw B2.6 x 5
130N	1	1	1	1	316Y002040	Arm, Play
131N	1	1	1	1	64000300R0	RG Ring, E Type
132N	1	1	1	1	316Y058010	Gear, Drive
133N	1	1	1	1	316Y123010	Contactor
134N	1	1	1	1	316Y160030	Bracket
135N	1	1	1	1	316Y058030	Gear, Worm
136N	2	2	2	2	51100203A0	P.H.M. Screw P2 x 3
137N	1	1	1	1	51100203A0	P.H.M. Screw P2 x 3
138N	1	1	1	1	5130260880	P.H. Tapped Screw P2.6 x 8
810N	1	1	1	1	316Y160020	Bracket, Motor

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
811N	2	2	2	2	5128032080	B.H. Tapped Screw B3 x 20
812N	2	2	2	2	51062603A0	P.H.M. Screw P2.6 x 3
813N	2	2	2	2	51062603A0	P.H.M. Screw P2.6 x 3
815N	2	2	2	2	5159260580	B. Taptite Screw B2.6 x 5
816N	1	1	1	1	316Y262010	Pulley, Main
817N	1	1	1	1	51692603Q0	Socket Screw, HP M2.6 x 3
818N	1	1	1	1	101K262020	Pulley, FF/REW
819N	1	1	1	1	313Y115060	Spring, Solenoid
820N	2	2	2	2	51442604A0	L, Washer Screw L2.6 x 4
825N	1	1	1	1	316Y264030	Belt, Counter
826N	1	1	1	1	316Y264040	Belt, Counter
831N	1	1	1	1	316Y264020	Belt, FF/REW
832N	1	1	1	1	5130260680	P.H. Tapped Screw P2.6 x 6
091F	1	1	1	1	4220005030	Clamper
092F	1	1	1	1	5128260680	B.H.Tapped Screw B2.6 x 6
L071	1	1	1	1	ME10440020	Solenoid, Brake
⚠M071	1	1	1	1	MM11200210	D.C. Motor, Main
⚠M072	1	1	1	1	MM00900020	D.C. Motor, FF/REW
⚠M073	1	1	1	1	MM00900030	D.C. Motor, Assist
S071	1	1	1	1	SM01011000	Mini Switch, Cassette
P072	1	1	1	1	YH139H1410	P.W. Board, Mecha Switch
S072	1	1	1	1	SM01020450	Mini Switch, Rec Safty
S075	1	1	1	1	SM01020450	Mini Switch, Metal
S076	1	1	1	1	SM01020450	Mini Switch, CrO_2
P073	1	1	1	1	YH139T1420	P.W. Board, Photo Sencer
Q071	1	1	1	1	HW10003320	Photo Unit
P076	1	1	1	1	YF139T0010	P.W. Board, Rotary Detector

[H01-99] PACKING MATERIALS



(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
001S	1				139T801010	Packing Case
001S		1	1	1	139T801020	Packing Case
002S	1	1	1	1	240H809010	Cushion, (L)
003S	1	1	1	1	240H809020	Cushion, (R)
006S	1	1	1	1	9013540010	Polyethylene Bag
011S	1			1	2918107390	Sheet
012S	2				9526019010	Serial No. Card
012S		4			9526019060	Serial No. Card
012S			4		9526019030	Serial No. Card
012S				4	9526019040	Serial No. Card
015S	1	1	1	1	240H809030	Cushion
001T	1				139T851210	Instructions
001T		1	1		139T851310	Instructions
001T				1	139T851110	Instructions
002T	1				139T851220	Instructions, Spec
002T		1	1		139T851320	Instructions, Spec
021S	1	1	1	1	102T861020	Label
022S	1	1	1	1	51100308Y0	P.H.M. Screw P3 x 8

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
002T				1	9631000130	Guarantee Card
003T	1				103H854010	Guarantee Card
003T		1			139T856010	Circuit Diagram
003T			1		9631000090	Guarantee Card
003T				1	128T854010	Guarantee Card
004T	1				2225813010	Envelope
004T				1	9611000050	User's Card
005T				1	9540000010	License
901T	1				2818854040	Guarantee Card, Canada
902T	1				9650000050	S. Station Card, Canada
⚠W001		1			ZC01805010	A.C. Power Coad
⚠W001			1		ZC02006020	A.C. Power Cord
W002	2	2	2	2	ZD01000170	Connective Cord, RCA Pin
W003	1	1	1	1	ZD00400090	Connective Coad, Easy Bus

(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

ELECTRICAL PARTS LIST

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						P601-DOLBY B-C NR CIRCUIT BOARD
P601	1	1	1	1	WB139T1620	P.W. Board, Dolby B-C NR
	1	1	1		ZZ139T1620	P.W. Board Assembly
						P601-CAPACITORS
C607	1	1	1	1	DF15182300	Film 1800pF ±5%
C608	1	1	1	1	DF15182300	Film 1800pF ±5%
C611	1	1	1	1	DF15103350	Film 0.01μF ±5%
C612	1	1	1	1	DF15103350	Film 0.01μF ±5%
C613	1	1	1	1	DD4547030Y	Ceramic 47pF ±5%, Chip
C614	1	1	1	1	DD4547030Y	Ceramic 47pF ±5%, Chip
C615	1	1	1	1	EA10601630	Elect 10μF 16V
C616	1	1	1	1	EA10601630	Elect 10μF 16V
C617	1	1	1	1	DF15473350	Film 0.047μF ±5%
C618	1	1	1	1	DF15473350	Film 0.047μF ±5%
C619	1	1	1	1	DF15472300	Film 4700pF ±5%
C620	1	1	1	1	DF15472300	Film 4700pF ±5%
C621	1	1	1	1	DF15333350	Ceramic 0.033μF ±5%
C622	1	1	1	1	DF15333350	Ceramic 0.033μF ±5%
C623	1	1	1	1	DF15683350	Ceramic 0.068μF ±5%
C624	1	1	1	1	DF15683350	Ceramic 0.068μF ±5%
C625	1	1	1	1	DF15333350	Ceramic 0.033μF ±5%
C626	1	1	1	1	DF15333350	Ceramic 0.033μF ±5%
C627	1	1	1	1	DF15104350	Ceramic 0.1μF ±5%
C628	1	1	1	1	DF15104350	Ceramic 0.1μF ±5%
C629	1	1	1	1	DF15154350	Ceramic 0.15μF ±5%
C630	1	1	1	1	DF15154350	Ceramic 0.15μF ±5%
C631	1	1	1	1	EA10601630	Elect 10μF 16V
C632	1	1	1	1	EA10601630	Elect 10μF 16V
C633	1	1	1	1	DF15224350	Film 0.22μF ±5%
C634	1	1	1	1	DF15224350	Film 0.22μF ±5%
C635	1	1	1	1	DF15472300	Film 4700pF ±5%
C636	1	1	1	1	DF15472300	Film 4700pF ±5%
C637	1	1	1	1	EA22505030	Elect 2.2μF 50V
C638	1	1	1	1	EA22505030	Elect 2.2μF 50V
C639	1	1	1	1	DF15333350	Film 0.033μF ±5%
C640	1	1	1	1	DF15333350	Film 0.033μF ±5%
C641	1	1	1	1	DF15104350	Film 0.1μF ±5%
C642	1	1	1	1	DF15104350	Film 0.1μF ±5%
C643	1	1	1	1	EA22701130	Elect 220μF 10V
C644	1	1	1	1	EA22701130	Elect 220μF 10V
C651	1	1	1	1	EA10602530	Elect 10μF 25V
C652	1	1	1	1	EA10602530	Elect 10μF 25V
C655	1	1	1	1	DD4510130Y	Ceramic 100pF ±5%, Chip
C656	1	1	1	1	DD4510130Y	Ceramic 100pF ±5%, Chip

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						P601-RESISTORS (All Resistors are ±5%&1/8W)
R601	1	1	1	1	RI0512218Y	1.2KΩ, Chip
R602	1	1	1	1	RI0512218Y	1.2KΩ, Chip
R603	1	1	1	1	RI0556218Y	5.6KΩ, Chip
R604	1	1	1	1	RI0556218Y	5.6KΩ, Chip
R605	1	1	1	1	RI0512318Y	12KΩ, Chip
R606	1	1	1	1	RI0512318Y	12KΩ, Chip
R607	1	1	1	1	RI0547218Y	4.7KΩ, Chip
R608	1	1	1	1	RI0547218Y	4.7KΩ, Chip
R609	1	1	1	1	RI0512218Y	1.2KΩ, Chip
R610	1	1	1	1	RI0512218Y	1.2KΩ, Chip
R613	1	1	1	1	RI0510218Y	1KΩ, Chip
R614	1	1	1	1	RI0510218Y	1KΩ, Chip
R615	1	1	1	1	RI0568318Y	68KΩ, Chip
R616	1	1	1	1	RI0568318Y	68KΩ, Chip
R617	1	1	1	1	RI0522218Y	2.2KΩ, Chip
R618	1	1	1	1	RI0522218Y	2.2KΩ, Chip
R619	1	1	1	1	RI0512218Y	1.2KΩ, Chip
R620	1	1	1	1	RI0512218Y	1.2KΩ, Chip
R621	1	1	1	1	RI0539218Y	3.9KΩ, Chip
R622	1	1	1	1	RI0539218Y	3.9KΩ, Chip
R623	1	1	1	1	RI0547318Y	47KΩ, Chip
R624	1	1	1	1	RI0547318Y	47KΩ, Chip
R625	1	1	1	1	RI0547218Y	4.7KΩ, Chip
R626	1	1	1	1	RI0547218Y	4.7KΩ, Chip
R627	1	1	1	1	RI0533418Y	330KΩ, Chip
R628	1	1	1	1	RI0533418Y	330KΩ, Chip
R629	1	1	1	1	RI0512318Y	12KΩ, Chip
R630	1	1	1	1	RI0512318Y	12KΩ, Chip
R631	1	1	1	1	RI0582318Y	82KΩ, Chip
R632	1	1	1	1	RI0582318Y	82KΩ, Chip
R633	1	1	1	1	RI0539418Y	390KΩ, Chip
R634	1	1	1	1	RI0539418Y	390KΩ, Chip
R635	1	1	1	1	RI0515418Y	150KΩ, Chip
R636	1	1	1	1	RI0515418Y	150KΩ, Chip
R637	1	1	1	1	RI0515418Y	150KΩ, Chip
R638	1	1	1	1	RI0515418Y	150KΩ, Chip
R641	1	1	1	1	RI0533418Y	330KΩ, Chip
R642	1	1	1	1	RI0533418Y	330KΩ, Chip
R643	1	1	1	1	RI0539418Y	390KΩ, Chip
R644	1	1	1	1	RI0539418Y	390KΩ, Chip
R651	1	1	1	1	RI0522318Y	22KΩ, Chip
R652	1	1	1	1	RI0533218Y	2.2KΩ, Chip
R653	1	1	1	1	RI0582318Y	82KΩ, Chip
R654	1	1	1	1	RI0522318Y	22KΩ, Chip
R655	1	1	1	1	RI0518318Y	18KΩ, Chip
R656	1	1	1	1	RI0539218Y	3.9KΩ, Chip
R661	1	1	1	1	RI0510518Y	1MΩ, Chip
R662	1	1	1	1	RI0510518Y	1MΩ, Chip
R663	1	1	1	1	RI0510118Y	100Ω, Chip
R664	1	1	1	1	RI0510118Y	100Ω, Chip
R665	1	1	1	1	RI0510118Y	100Ω, Chip
R666	1	1	1	1	RI0510118Y	100Ω, Chip

(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						P601-SEMICONDUCTORS
Q601	1	1	1	1	HC10012270	IC NE652
Q602	1	1	1	1	HC10012270	IC NE652
Q603	1	1	1	1	HC10013270	IC NE654
Q604	1	1	1	1	HC10013270	IC NE654
Q651	1	1	1	1	HX327121AZ	Transistor 2SC2712(G)
Q652	1	1	1	1	HX327121AZ	Transistor 2SC2712(G)
Q653	1	1	1	1	HX327121AZ	Transistor 2SC2712(G)
D651	1	1	1	1	HD20001000	Diode 1S1555
						P601-MISCELLANEOUS
J601	1	1	1	1	YJ06002430	Jack, (3P)
J602	1	1	1	1	YJ06002390	Jack, (5P)
J603	1	1	1	1	YJ06002460	Jack, (7P)
J604	1	1	1	1	YJ06002440	Jack, (4P)
L601	1	1	1	1	LS10440050	M.P.X. Coil
L602	1	1	1	1	LS10440050	M.P.X. Coil
L603	1	1	1	1	LC23660600	Choke Coil, 36mH
L604	1	1	1	1	LC23660600	Choke Coil, 36mH
						P801-POWER SWITCH CIRCUIT BOARD
P801	1	1	1	1	WB139T1650	P.W. Board, Power Switch
	1				ZZ139T1650	P.W. Board Assembly
		1	1		ZZ139T8650	P.W. Board Assembly
⚠G801	1	1	1		DK18103840	Ceramic Cap. 0.01μF 400V
				1	DK18103850	Cermaic Cap. 0.01μF 250V
J801	1	1	1	1	YL010100 10	Terminal
J803	1			1	YL01010040	Terminal
⚠S801	1	1	1	1	SP01010650	Push Swtich, Power
						PJ01-PLAYBACK EQ AMP CIRCUIT BOARD
PJ01	1	1	1	1	WB139T1630	P.W. Board, Playback EQ Amp
	1	1	1		ZZ139T1630	P.W. Board Assembly
						PJ01-CAPACITORS
CJ01	1	1	1	1	DK4639130Y	Ceramic 390pF ±10%, Chip
CJ02	1	1	1	1	DK4639130Y	Ceramic 390pF ±10%, Chip
CJ03	1	1	1	1	DK4647130Y	Ceramic 470pF ±10%, Chip
CJ04	1	1	1	1	DK4647130Y	Ceramic 470pF ±10%, Chip
CJ05	1	1	1	1	DK4622330Y	Ceramic 0.022μF ±10%, Chip
CJ06	1	1	1	1	DK4622330Y	Ceramic 0.022μF ±10%, Chip
CJ07	1	1	1	1	EQ10505030	Elect 1μF 50V
CJ08	1	1	1	1	EQ10505030	Elect 1μF 50V
CJ09	1	1	1	1	DK4615230Y	Ceramic 1500pF ±10%, Chip
CJ10	1	1	1	1	DK4615230Y	Ceramic 1500pF ±10%, Chip
CJ11	1	1	1	1	DK4615330Y	Ceramic 0.015μF ±10%, Chip
CJ12	1	1	1	1	DK4615330Y	Ceramic 0.015μF ±10%, Chip
CJ13	1	1	1	1	DK4627130Y	Ceramic 270pF ±10%, Chip

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						PJ01-RESISTORS (All Resistors are ±5% & 1/8W)
RJ01	1	1	1	1	RI0539318Y	39KΩ, Chip
RJ02	1	1	1	1	RI0539318Y	39KΩ, Chip
RJ03	1	1	1	1	RI0582018Y	82Ω, Chip
RJ04	1	1	1	1	RI0582018Y	82Ω, Chip
RJ05	1	1	1	1	RI0515418Y	150KΩ, Chip
RJ06	1	1	1	1	RI0515418Y	150KΩ, Chip
RJ07	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RJ08	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RJ09	1	1	1	1	RA05020180	5KΩ(B), Trimming
RJ10	1	1	1	1	RA05020180	5KΩ(B), Trimming
RJ11	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RJ12	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RJ13	1	1	1	1	RI0518418Y	180KΩ, Chip
RJ14	1	1	1	1	RI0518418Y	180KΩ, Chip
RJ15	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RJ16	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RJ17	1	1	1	1	RA02030140	20KΩ(B), Trimming
RJ18	1	1	1	1	RA02030140	20KΩ(B), Trimming
RJ19	1	1	1	1	RI0515318Y	15KΩ, Chip
RJ20	1	1	1	1	RI0515318Y	15KΩ, Chip
RJ21	1	1	1	1	RI0518218Y	1.8KΩ, Chip
RJ22	1	1	1	1	RI0518218Y	1.8KΩ, Chip
RJ23	1	1	1	1	RI0547318Y	47KΩ, Chip
RJ24	1	1	1	1	RI0547318Y	47KΩ, Chip
RJ31	1	1	1	1	GG05821140	820Ω ¼W
RJ32	1	1	1	1	GG05821140	820Ω ¼W
						PJ01-SEMICONDUCTORS
DN01	1	1	1	1	HD20001000	Diode 1S1555
QJ01	1	1	1	1	HX327121AZ	Transistor 2SC2712(G)
QJ02	1	1	1	1	HX327121AZ	Transistor 2SC2712(G)
QJ03	1	1	1	1	HC10040020	IC AN6558
JJ01	1	1	1	1	YP06000380	Plug, (8P)
WJ01	1	1	1	1	YU04180260	Jumper Lead
						PK01-MAIN CIRCUIT BOARD
PK01	1	1	1	1	WB139T1610	P.W. Board, Main
	1	1	1		ZZ139T1610	P.W. Board Assembly
						PK01-CAPACITORS
CE01	1	1	1	1	EA22505030	Elect 2.2μF 50V
CE02	1	1	1	1	EA22505030	Elect 2.2μF 50V
CE03	1	1	1	1	DK4610230Y	Ceramic 1000pF ±10%, Chip
CE04	1	1	1	1	DK4610230Y	Ceramic 1000pF ±10%, Chip
CE05	1	1	1	1	EA22505030	Elect 2.2μF 50V
CE06	1	1	1	1	EA22505030	Elect 2.2μF 50V
CE11	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CE12	1	1	1	1	EA10701030	Elect 100μF 10V
CE13	1	1	1	1	EA10701030	Elect 100μF 10V
CE14	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CE15	1	1	1	1	EA10801030	Elect 1000μF 10V
CG01	1	1	1	1	EA22505030	Elect 2.2μF 50V
CG02	1	1	1	1	EA22505030	Elect 2.2μF 50V
CG03	1	1	1	1	EA22505030	Elect 2.2μF 50V
CG04	1	1	1	1	EA22505030	Elect 2.2μF 50V
CG11	1	1	1	1	EA10701030	Elect 100μF 10V
CG12	1	1	1	1	EA10701030	Elect 100μF 10V
CG51	1	1	1	1	EJ47602510	Elect 47μF 25V

(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
CJ21	1	1	1	1	EA10701030	Elect 100μF 10V
CJ22	1	1	1	1	EA10701030	Elect 100μF 10V
CJ23	1	1	1	1	EA10601630	Elect 10μF 16V
CK01	1	1	1	1	DF15101550	Film 100pF ±5%
CK02	1	1	1	1	DF15101550	Film 100pF ±5%
CK03	1	1	1	1	EQ47503530	Elect 4.7μF 35V
CK04	1	1	1	1	EQ47503530	Elect 4.7μF 35V
CK05	1	1	1	1	DD4522030Y	Ceramic 22pF ±5%, Chip
CK06	1	1	1	1	DD4522030Y	Ceramic 22pF ±5%, Chip
CK07	1	1	1	1	DF15124350	Film 0.12μF ±5%
CK08	1	1	1	1	DF15124350	Film 0.12μF ±5%
CK09	1	1	1	1	DK4627230Y	Ceramic 2700pF ±10%, Chip
CK10	1	1	1	1	DK4627230Y	Ceramic 2700pF ±10%, Chip
CK11	1	1	1	1	DK4610230Y	Ceramic 1000pF ±10%, Chip
CK12	1	1	1	1	DK4610230Y	Ceramic 1000pF ±10%, Chip
CK13	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CK14	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CK15	1	1	1	1	DK4615330Y	Ceramic 0.015μF ±10%, Chip
CK16	1	1	1	1	DK4615330Y	Ceramic 0.015μF ±10%, Chip
CK17	1	1	1	1	DK4618320Y	Ceramic 0.018μF ±10%, Chip
CK18	1	1	1	1	DK4618320Y	Ceramic 0.018μF ±10%, Chip
CK19	1	1	1	1	DK4612330Y	Ceramic 0.012μF ±10%, Chip
CK20	1	1	1	1	DK4612330Y	Ceramic 0.012μF ±10%, Chip
CK21	1	1	1	1	DK4615330Y	Ceramic 0.015μF ±10%, Chip
CK22	1	1	1	1	DK4615330Y	Ceramic 0.015μF ±10%, Chip
CK51	1	1	1	1	EJ47502510	Elect 4.7μF 25V
CL01	1	1	1	1	DF15151550	Film 150pF ±5%
CL02	1	1	1	1	DF15151550	Film 150pF ±5%
CL03	1	1	1	1	DF15392550	Film 3900pF ±5%
CL04	1	1	1	1	EA33602530	Elect 33μF 25V
CL05	1	1	1	1	DF15562550	Film 5600pF ±5%
CL06	1	1	1	1	DF15272550	Film 2700pF ±5%
CL07	1	1	1	1	EA10602530	Elect 10μF 25V
CL08	1	1	1	1	EA47405030	Elect 0.47μF 50V
CN01	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CN02	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CN03	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CN04	1	1	1	1	DK4610230Y	Ceramic 1000pF ±10%, Chip
CN05	1	1	1	1	DD4510130Y	Ceramic 100pF ±5%, Chip
CN06	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CN07	1	1	1	1	DK4633330Y	Ceramic 0.033μF ±10%, Chip
CN08	1	1	1	1	EA10601630	Elect 10μF 16V
CN11	1	1	1	1	DF15104350	Film 0.1μF ±5%
CN12	1	1	1	1	DD4510130Y	Ceramic 100pF ±5%, Chip
CV01	1	1	1	1	EA10701630	Elect 100μF 16V
CV02	1	1	1	1	EA10505030	Elect 1μF 50V
CV03	1	1	1	1	EA22505030	Elect 2.2μF 50V
CV04	1	1	1	1	EA22505030	Elect 2.2μF 50V
CV05	1	1	1	1	EA22505030	Elect 2.2μF 50V
CV06	1	1	1	1	EA22505030	Elect 2.2μF 50V
CV07	1	1	1	1	EA10601630	Elect 10μF 16V
CV08	1	1	1	1	EA10601630	Elect 10μF 16V
CV09	1	1	1	1	EA10601630	Elect 10μF 16V
CV51	1	1	1	1	EA10601630	Elect 10μF 16V
CV52	1	1	1	1	EA10601630	Elect 10μF 16V
CV53	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%
CX01	1	1	1	1	EA10505030	Elect 1μF 50V
CX02	1	1	1	1	EA10505030	Elect 1μF 50V

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
⚠C801	1	1	1	1	DK18473320	Ceramic 0.047μF
⚠C802	1	1	1	1	DK18473320	Ceramic 0.047μF
⚠C803	1	1	1	1	EA47503530	Elect 4.7μF 35V
⚠C804	1	1	1	1	EA47503530	Elect 4.7μF 35V
⚠C805	1	1	1	1	EA10802530	Elect 1000μF 25V
⚠C806	1	1	1	1	EA33802530	Elect 3300μF 25V
C807	1	1	1	1	EA10702530	Elect 100μF 25V
C808	1	1	1	1	EA10702530	Elect 100μF 25V
C809	1	1	1	1	EA10701030	Elect 100μF 10V
C810	1	1	1	1	EA10701030	Elect 100μF 10V
C811	1	1	1	1	EA33701030	Elect 330μF 10V
C812	1	1	1	1	EA47601030	Elect 47μF 10V
⚠C813	1	1	1	1	EA33802530	Elect 3300μF 25V
C814	1	1	1	1	EA10701630	Elect 100μF 16V
C815	1	1	1	1	EA10701630	Elect 100μF 16V
C816	1	1	1	1	EA22701630	Elect 220μF 16V
C817	1	1	1	1	EA47601630	Elect 47μF 16V
						PK01-RESISTORS
						(All Resistor are ±5% & 1/8W)
RE01	1	1	1	1	RI0510318Y	10KΩ, Chip
RE02	1	1	1	1	RI0510318Y	10KΩ, Chip
RE03	1	1	1	1	RI0510518Y	1MΩ, Chip
RE04	1	1	1	1	RI0510518Y	1MΩ, Chip
RE05	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RE06	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RE07	1	1	1	1	RI0547318Y	47KΩ, Chip
RE08	1	1	1	1	RI0547318Y	47KΩ, Chip
RE11	1	1	1	1	GG05821140	820Ω ¼W
RE12	1	1	1	1	GG05821140	820Ω ¼W
RE13	1	1	1	1	RI0527318Y	27KΩ
RE14	1	1	1	1	RI0527318Y	27KΩ
RE15	1	1	1	1	GD05821140	820Ω ¼W
RE17	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RE18	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RG01	1	1	1	1	RI0515318Y	15KΩ, Chip
RG02	1	1	1	1	RI0515318Y	15KΩ, Chip
RG03	1	1	1	1	RI0515318Y	15KΩ, Chip
RG04	1	1	1	1	RI0515318Y	15KΩ, Chip
RG05	1	1	1	1	RI0568218Y	6.8KΩ, Chip
RG06	1	1	1	1	RI0568218Y	6.8KΩ, Chip
RG07	1	1	1	1	RI0533318Y	33KΩ, Chip
RG08	1	1	1	1	RI0533318Y	33KΩ, Chip
RG09	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RG10	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RG11	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RG12	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RG13	1	1	1	1	RI0533318Y	33KΩ, Chip
RG14	1	1	1	1	RI0533318Y	33KΩ, Chip
RG15	1	1	1	1	RI0515318Y	15KΩ, Chip
RG16	1	1	1	1	RI0515318Y	15KΩ, Chip
RG17	1	1	1	1	RI0527318Y	27KΩ, Chip
RG18	1	1	1	1	RI0527318Y	27KΩ, Chip
RG19	1	1	1	1	GD05221140	220Ω ¼W
RG20	1	1	1	1	GD05221140	220Ω ¼W
RG21	1	1	1	1	RI0568118Y	680Ω, Chip
RG22	1	1	1	1	RI0568118Y	680Ω, Chip
RG51	1	1	1	1	GD05104140	100KΩ
RG52	1	1	1	1	GD05333140	33KΩ
RH16	1	1	1	1	RI0510318Y	10KΩ, Chip
RH41	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RH42	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RH43	1	1	1	1	GD05103140	10KΩ ¼W

(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
(F) : for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
RJ33	1	1	1	1	RI0515318Y	15KΩ, Chip
RJ34	1	1	1	1	RI0515318Y	15KΩ, Chip
RK01	1	1	1	1	GD05123140	12KΩ ¼W
RK02	1	1	1	1	GD05123140	12KΩ ¼W
RK03	1	1	1	1	RI0518318Y	18KΩ, Chip
RK04	1	1	1	1	RI0518318Y	18KΩ, Chip
RK05	1	1	1	1	RI0568318Y	68KΩ, Chip
RK06	1	1	1	1	RI0568318Y	68KΩ, Chip
RK07	1	1	1	1	RI0556218Y	5.6KΩ, Chip
RK08	1	1	1	1	RI0556218Y	6.6KΩ, Chip
RK09	1	1	1	1	RI0582218Y	8.2KΩ, Chip
RK10	1	1	1	1	RI0582218Y	8.2KΩ, Chip
RK11	1	1	1	1	R10533218Y	3.3KΩ, Chip
RK12	1	1	1	1	R10533218Y	3.3KΩ, Chip
RK13	1	1	1	1	RI0518318Y	18KΩ, Chip
RK14	1	1	1	1	RI0518318Y	18KΩ, Chip
RK15	1	1	1	1	RA02030140	20KΩ(B), Trimming
RK16	1	1	1	1	RA02030140	20KΩ(B), Trimming
RK17	1	1	1	1	RI0522118Y	220Ω, Chip
RK18	1	1	1	1	RI0522118Y	220Ω, Chip
RK19	1	1	1	1	RI0527318Y	27KΩ, Chip
RK20	1	1	1	1	RI0527318Y	27KΩ, Chip
RK21	1	1	1	1	RI0510218Y	1KΩ, Chip
RK22	1	1	1	1	RI0510218Y	1KΩ, Chip
RK23	1	1	1	1	RI0512318Y	12KΩ, Chip
RK24	1	1	1	1	RI0512318Y	12KΩ, Chip
RK25	1	1	1	1	RI0582018Y	82Ω, Chip
RK26	1	1	1	1	RI0582018Y	82Ω, Chip
RK27	1	1	1	1	RI0582018Y	82Ω, Chip
RK28	1	1	1	1	RI0582018Y	82Ω, Chip
RK29	1	1	1	1	RI0582018Y	82Ω, Chip
RK30	1	1	1	1	RI0582018Y	82Ω, Chip
RK31	1	1	1	1	RI0510318Y	10KΩ, Chip
RK32	1	1	1	1	RI0510318Y	10KΩ, Chip
RK33	1	1	1	1	RI0510318Y	10KΩ, Chip
RK34	1	1	1	1	RI0510318Y	10KΩ, Chip
RK35	1	1	1	1	RI0547318Y	47KΩ, Chip
RK36	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RK38	1	1	1	1	RI0510518Y	1MΩ, Chip
RK39	1	1	1	1	RI0510518Y	1MΩ, Chip
RK51	1	1	1	1	GD05102140	1KΩ ¼W
RK52	1	1	1	1	GD05103140	10KΩ ¼W
RL01	1	1	1	1	RA05030290	50KΩ, Trimming
RL02	1	1	1	1	RA05030290	50KΩ, Trimming
RL03	1	1	1	1	RI0515318Y	15KΩ, Chip
RL04	1	1	1	1	GG05047140	4.7Ω ¼W
RL05	1	1	1	1	GD05332140	3.3KΩ ¼W
RL06	1	1	1	1	RI0533518Y	3.3MΩ, Chip
RL07	1	1	1	1	RI0510318Y	10KΩ, Chip
RL08	1	1	1	1	RI0512318Y	12KΩ, Chip
RL09	1	1	1	1	RI0582318Y	82KΩ, Chip
RL10	1	1	1	1	RI0510218Y	1KΩ, Chip
RL11	1	1	1	1	RI0568218Y	6.8KΩ, Chip
RL12	1	1	1	1	RA05030800	50KΩ(B), Trimming
RL13	1	1	1	1	RA01030800	10KΩ(B), Trimming
RL14	1	1	1	1	RI0533318Y	33KΩ, Chip
RL15	1	1	1	1	RI0510318Y	10KΩ, Chip
RL16	1	1	1	1	RI0547318Y	47KΩ, Chip

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
RN01	1	1	1	1	GD05104140	100KΩ ¼W
RN02	1	1	1	1	GD05104140	100KΩ ¼W
RN03	1	1	1	1	RI0533518Y	3.3MΩ, Chip
RN04	1	1	1	1	RI0533518Y	3.3MΩ, Chip
RN05	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RN06	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RN07	1	1	1	1	RI0518318Y	18KΩ, Chip
RN08	1	1	1	1	RI0518318Y	18KΩ, Chip
RN09	1	1	1	1	RI0518418Y	180KΩ, Chip
RN10	1	1	1	1	RI0527318Y	27KΩ, Chip
RN11	1	1	1	1	RI0518418Y	180KΩ, Chip
RN12	1	1	1	1	RI0582318Y	82KΩ, Chip
RN13	1	1	1	1	RI0582318Y	82KΩ, Chip
RN14	1	1	1	1	RI0556318Y	56KΩ, Chip
RN15	1	1	1	1	GD05103140	10KΩ ¼W
RN16	1	1	1	1	RI0512518Y	1.2MΩ, Chip
RN17	1	1	1	1	GD05103140	10KΩ ¼W
RN18	1	1	1	1	RI0556218Y	5.6KΩ, Chip
RN19	1	1	1	1	RI0582318Y	82KΩ, Chip
RN20	1	1	1	1	RI0582018Y	82Ω, Chip
RN21	1	1	1	1	RI0568418Y	680KΩ, Chip
RN22	1	1	1	1	RI0522418Y	220KΩ, Chip
RN23	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RN24	1	1	1	1	RI0556118Y	560Ω, Chip
RN25	1	1	1	1	RI0533318Y	33KΩ, Chip
RN26	1	1	1	1	RI0510418Y	100KΩ, Chip
RN27	1	1	1	1	RI0510218Y	1KΩ, Chip
RN28	1	1	1	1	RI0527318Y	27KΩ, Chip
RN29	1	1	1	1	RI0527318Y	27KΩ, Chip
RN30	1	1	1	1	RI0510318Y	10KΩ, Chip
RN31	1	1	1	1	RI0515318Y	15KΩ, Chip
RN32	1	1	1	1	RI0568218Y	6.8KΩ, Chip
RV01	1	1	1	1	GD05332140	3.3KΩ ¼W
RV02	1	1	1	1	GD05332140	3.3KΩ ¼W
RV03	1	1	1	1	RI0582218Y	8.2KΩ, Chip
RV04	1	1	1	1	RI0582218Y	8.2KΩ, Chip
RV05	1	1	1	1	RI0522418Y	220KΩ, Chip
RV06	1	1	1	1	RI0510418Y	100KΩ, Chip
RV07	1	1	1	1	RI0510518Y	1MΩ, Chip
RV08	1	1	1	1	RI0533218Y	3.3KΩ, Chip
RV09	1	1	1	1	RI0510318Y	10KΩ, Chip
RV10	1	1	1	1	RI0510218Y	1KΩ, Chip
RX01	1	1	1	1	RA02030140	20KΩ(B), Trimming
RX02	1	1	1	1	RA02030140	20KΩ(B), Trimming
RX03	1	1	1	1	RI0510318Y	10KΩ, Chip
RX04	1	1	1	1	RI0510318Y	10KΩ, Chip
RX05	1	1	1	1	GD05473140	47KΩ ¼W
RX06	1	1	1	1	GD05473140	47KΩ ¼W
±R801	1	1	1	1	GG05022120	2.2Ω ½W
R802	1	1	1	1	RI0533218Y	3.3KΩ, Chip
±R803	1	1	1	1	GG05022120	2.2Ω ½W
R804	1	1	1	1	GD05332140	3.3KΩ ¼W
R805	1	1	1	1	RI0515318Y	15KΩ, Chip
R806	1	1	1	1	RI0515318Y	15KΩ, Chip
R807	1	1	1	1	GG05471120	470Ω ½W
R808	1	1	1	1	GG05471120	470Ω ½W
±R809	1	1	1	1	GG05330120	33Ω ½W
R810	1	1	1	1	GG05330120	33Ω ½W
R811	1	1	1	1	GG05471120	470Ω ½W
R812	1	1	1	1	GG05471120	470Ω ½W

(U) : for U.S.A.
(N) : for Europe
(A) : for Australia
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REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION	
						PK01-SEMICONDUCTORS	
DG01	1	1	1	1	HD20015030	Diode	DS135D
DG02	1	1	1	1	HD20015030	Diode	DS135D
DG51	1	1	1	1	HD30031090	Zener	WZ081
DG52	1	1	1	1	HD20001000	Diode	1S1555
DH13	1	1	1	1	HD20001000	Diode	1S1555
DJ01	1	1	1	1	HD20001000	Diode	1S1555
DJ02	1	1	1	1	HD20001000	Diode	1S1555
DK01	1	1	1	1	HD30010020	Zener	NA1120
⚠ DK02	1	1	1	1	HD20015030	Diode	DS135D
DK03	1	1	1	1	HD30010020	Zener	MA1120
DK04	1	1	1	1	HD20001000	Diode	1S1555
DK05	1	1	1	1	HD20001000	Diode	1S1555
DK51	1	1	1	1	HD30002020	Zener	MA1039M
DL01	1	1	1	1	HD20001000	Diode	1S1555
DL02	1	1	1	1	HD20001000	Diode	1S1555
DL03	1	1	1	1	HD20001000	Diode	1S1555
DL04	1	1	1	1	HD30010020	Zener	MA1120
DV01	1	1	1	1	HD20001000	Diode	1S1555
DV02	1	1	1	1	HD20001000	Diode	1S1555
⚠D801	1	1	1	1	HE20002030	Diode	DBB10B
⚠D802	1	1	1	1	HD20015030	Diode	DS135D
⚠D803	1	1	1	1	HD20015030	Diode	DS135D
D804	1	1	1	1	HD20015030	Diode	DS135D
D805	1	1	1	1	HD30007020	Zener	MA1091
D806	1	1	1	1	HD30007020	Zener	MA1091
D807	1	1	1	1	HD30023020	Zener	MA1110
D808	1	1	1	1	HD30010020	Zener	MA1120
D809	1	1	1	1	HD20001000	Diode	1S1555
D810	1	1	1	1	HD20001000	Diode	1S1555
D811	1	1	1	1	HD20001000	Diode	1S1555
D812	1	1	1	1	HD20001000	Diode	1S1555
QE01	1	1	1	1	HX327121BZ	Transistor	2SC2712(L), Chip
QE02	1	1	1	1	HX327121BZ	Transistor	2SC2712(L), Chip
QG01	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QG02	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QG03	1	1	1	1	HX410301TZ	Transistor	2SD1030(T), Chip
QG04	1	1	1	1	HX410301TZ	Transistor	2SD1030(T), Chip
QG11	1	1	1	1	HC10007090	IC	NJM4560D
QG51	1	1	1	1	HF202461C0	F.E.T	2SK246(GR)
QH41	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QK01	1	1	1	1	HX410301TZ	Transistor	2SD1030(T), Chip
QK02	1	1	1	1	HX410301TZ	Transistor	2SD1030(T), Chip
QK03	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QK04	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QK05	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QK06	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QK07	1	1	1	1	HC10003090	IC	NJM4558D
QK08	1	1	1	1	HC10027210	IC	BA6251
⚠QK09	1	1	1	1	HT308282A0	Transistor	2SC828(R or S)
QL01	1	1	1	1	HT313831R0	Transistor	2SC1383(R)
QL02	1	1	1	1	HT403131E0	Transistor	2SD313(E)
QL03	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QL04	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
QL05	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION	
QN01	1	1	1	1	HF202461B0	F.E.T.	2SK246(Y)
QN02	1	1	1	1	HF202471B0	F.E.T	2SK246(Y)
QN03	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN04	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN05	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN06	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN07	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN08	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN09	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN10	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN11	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QN12	1	1	1	1	HX327121A0	Transistor	2SC2712(G), Chip
QV01	1	1	1	1	HC10114030	IC	LC7530
QV02	1	1	1	1	HF202461C0	F.E.T.	2SK246(GR)
QV03	1	1	1	1	HF202461C0	F.E.T.	2SK246(GR)
Q801	1	1	1	1	HX327121AZ	Transistor	2SC2712(G), Chip
Q802	1	1	1	1	HX111621AZ	Transistor	2SA1162(G), Chip
⚠Q803	1	1	1	1	HT403131E0	Transistor	2SD313(E)
⚠Q804	1	1	1	1	HT205071E0	Transistor	2SB507(E)
⚠Q805	1	1	1	1	HT403131E0	Transistor	2SD313(E)
⚠Q806	1	1	1	1	HT205071E0	Transistor	2SB507(E)
						PK01-MISCELLANEOUS	
JE01	1	1	1	1	YJ01001980	Jack, Mic	
JE02	1	1	1	1	YT02040470	Terminal, (4P) RCA Jack	
JG02	1	1	1	1	YJ01001790	Jack	
JH21	1	1	1	1	YJ07001000	Jack, (6P)	
JH22	1	1	1	1	YT02020390	Terminal, (2P) RCA Jack	
JH23	1	1	1	1	YT02020400	Terminal, (2P) REC Jack	
JH24	1	1	1	1	YT02020280	Terminal, (2P) RCA Jack	
JH25	1	1	1	1	YJ07000940	Jack, (4P)	
JK01	1	1	1	1	YJ07000940	Jack, (4P)	
JK02	1	1	1	1	YJ07000950	Jack, (8P)	
JK71	1	1	1	1	YP06002420	Plug, (6P)	
JK72	1	1	1	1	YP06002360	Plyg, (3P)	
JV01	1	1	1	1	YJ06002430	Jack, (3P)	
JX01	1	1	1	1	YP06002370	Plug, (2P)	
LK01	1	1	1	1	LC22260600	Choke Coil, 22mH	
LK02	1	1	1	1	LC22260600	Choke Coil, 22mH	
LK03	1	1	1	1	LC24750600	Choke Coil, 4.7mH	
LK04	1	1	1	1	LC24750600	Choke Coil, 4.7mH	
⚠LK05	1	1	1	1	LY20240210	Relay	
LL01	1	1	1	1	TC10140230	OSC Transformer	
LL02	1	1	1	1	LC11540040	Choke Coil, 150μH	
SH01	1	1	1	1	SS02020620	Slide Switch	
WG01	1	1	1	1	YU07180240	Jumper Lead	
WJ01	1	1	1	1	YU04180260	Jumper Lead	
WV01	1	1	1	1	YU03200260	Jumper Lead	
						PK02-TIMER SWITCH CIRCUIT BOARD	
PK02	1	1	1	1	WB139T1640	P.W. Board, Timer Switch	
	1	1	1		ZZ139T1640	P.W. Board Assembly	
SK01	1	1	1	1	SS01030020	Silde Switch, Timer	
WK01	1	1	1	1	YB00300690	Connective Cord, (3P)	

(U) : for U.S.A.
(N) : for Europe
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(F) : for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						PR01-MECHA OPERATION DISPLAY CIRCUIT BOARD
PR01	1	1	1	1	WZ139T1310	P.W. Board, Mecha Operation Display
	1	1	1		ZZ139T1310	P.W. Board Assembly
						PR01-RESISTORS (All Resistors are ±5%&1/8W)
RR01	1	1	1	1	RI0522118Y	220Ω, Chip
RR02	1	1	1	1	RI0522118Y	220Ω, Chip
RR03	1	1	1	1	RI0568018Y	68Ω, Chip
RR04	1	1	1	1	RI0568018Y	68Ω, Chip
RR05	1	1	1	1	RI0568018Y	68Ω, Chip
						PR01-SEMICONDUCTORS
DR01	1	1	1	1	HI10016320	L.E.D. (GL-9PR4) RED
DR02	1	1	1	1	HI10018320	L.E.D. (GL-9HY4) YEL
DR03	1	1	1	1	HI10017320	L.E.D. (GL-9NG4) GRN
DR04	1	1	1	1	HI10017320	L.E.D. (GL-9NG4) GRN
DR05	1	1	1	1	HI10017320	L.E.D. (LG-9NG4) GRN
SR01	1	1	1	1	SP01010570	Push Switch
SR02	1	1	1	1	SP01010570	Push Switch
SR03	1	1	1	1	SP01010570	Push Switch
SR04	1	1	1	1	SP01010570	Push Switch
SR05	1	1	1	1	SP01010570	Push Switch
SR06	1	1	1	1	SP01010570	Push Switch
SR07	1	1	1	1	SP01010570	Push Switch
SR08	1	1	1	1	SP01010570	Push Switch
SR09	1	1	1	1	SP01010570	Push Switch
JR01	1	1	1	1	YB00300670	Connective Cord, (12P)
						PY01-FRONT SWITCH CIRCUIT BOARD
PY01	1	1	1	1	WZ139T1330	P.W. Board, Front Switch
	1	1	1		WZ139T1330	P.W. Board Assembly
						PY01-RESISTORS (All Resistors are ±5%&1/8W)
RY01	1	1	1	1	RI0510318Y	10KΩ, Chip
RY02	1	1	1	1	RI0510318Y	10KΩ, Chip
RY03	1	1	1	1	RI0510318Y	10KΩ, Chip
RY04	1	1	1	1	GD05182140	1.8KΩ, ¼W
RY05	1	1	1	1	RI0510218Y	1KΩ, Chip
						PY01-SEMICONDUCTORS
DY03	1	1	1	1	HI10037020	L.E.D. LN322GP
DY04	1	1	1	1	HI10037020	L.E.D. LN322GP
DY05	1	1	1	1	HI10025020	L.E.D. LN222RP
DY06	1	1	1	1	HI10025020	L.E.D. LN222RP
QY01	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QY02	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
						PY01-MISCELLANEOUS
SY01	1	1	1	1	SP01010570	Push Switch
SY02	1	1	1	1	SP01010570	Push Switch
SY03	1	1	1	1	SP01010570	Push Switch
SY04	1	1	1	1	SP01010570	Push Switch
SY05	1	1	1	1	SP01010570	Push Switch
SY06	1	1	1	1	SP01010570	Push Switch
JY01	1	1	1	1	YJ07000980	Jack
WY01	1	1	1	1	YU03120260	Jumper Lead, (3P)
WY02	1	1	1	1	YU04140260	Jumper Lead, (4P)

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						RY02-DOLBY SWITCH CIRCUIT BOARD
RY02	1	1	1	1	WZ139T1320	P.W. Board, Dolby Switch
	1	1	1		ZZ139T1320	P.W. Board Assembly
						PY02-CAPACITORS
CY01	1	1	1	1	DK4622330Y	Ceramic 0.022μF ±10%, Chip
CY02	1	1	1	1	DK4622330Y	Ceramic 0.022μF ±10%, Chip
SY07	1	1	1	1	SP02020670	Push Switch
SY08	1	1	1	1	SP02020670	Push Switch
WY03	1	1	1	1	YU05160260	Jamper Lead, (5P)
						PU01-U-COM CIRCUIT BOARD
PU01	1	1	1	1	WY139T0010	P.W. Board, U-COM
	1	1	1		ZZ139T0010	P.W. Board Assembly
						PU01-CAPACITORS
CU01	1	1	1	1	DK4647130Y	Ceramic 470pF ±10%, Chip
CU02	1	1	1	1	DD1510130Y	Ceramic 100pF ±5%, Chip
CU03	1	1	1	1	DK4610330Y	Ceramic 0.01μF ±10%, Chip
CU04	1	1	1	1	DK4647320Y	Ceramic 0.047μF ±10%, Chip
⚠CU05	1	1	1	1	EA47801630	Elect 4700μF 16V
CU06	1	1	1	1	EA10601630	Elect 10μF 16V
						PU01-RESISTORS (All Resistors are ±5%&1/8W)
RU01	1	1	1	1	RI0547318Y	47KΩ, Chip
RU02	1	1	1	1	RI0547318Y	47KΩ, Chip
RU03	1	1	1	1	RI0547318Y	47KΩ, Chip
RU04	1	1	1	1	RI0547318Y	47KΩ, Chip
RU05	1	1	1	1	RI0547318Y	47KΩ, Chip
RU06	1	1	1	1	RI0547318Y	47KΩ, Chip
RU07	1	1	1	1	RI0547318Y	47KΩ, Chip
RU08	1	1	1	1	RI0547318Y	47KΩ, Chip
RU09	1	1	1	1	RI0547318Y	47KΩ, Chip
RU10	1	1	1	1	RI0547318Y	47KΩ, Chip
RU11	1	1	1	1	RI0547318Y	47KΩ, Chip
RU12	1	1	1	1	RI0547318Y	47KΩ, Chip
RU13	1	1	1	1	RI0510218Y	1KΩ, Chip
RU14	1	1	1	1	RI0510218Y	1KΩ, Chip
RU15	1	1	1	1	RI0510218Y	1KΩ, Chip
RU17	1	1	1	1	RI0522218Y	2.2KΩ, Chip
RU18	1	1	1	1	RI0522218Y	2.2KΩ, Chip
RU21	1	1	1	1	RI0556418Y	560KΩ, Chip
RU22	1	1	1	1	RI0510318Y	10KΩ, Chip
RU23	1	1	1	1	RI0510318Y	10KΩ, Chip
RU24	1	1	1	1	RI0510318Y	10KΩ, Chip
RU25	1	1	1	1	RI0547218Y	4.7KΩ, Chip
RU26	1	1	1	1	RI0582318Y	82KΩ, Chip
RU27	1	1	1	1	RI0510318Y	10KΩ, Chip
RU29	1	1	1	1	RI0510418Y	100KΩ, Chip
RU30	1	1	1	1	RI0510318Y	10KΩ, Chip
RU31	1	1	1	1	RI0510318Y	10KΩ, Chip
RU32	1	1	1	1	GA05220010	22Ω 1W
RU33	1	1	1	1	RA01030800	10KΩ, Trimming
RU34	1	1	1	1	RI0556218Y	5.6KΩ, Chip
RU46	1	1	1	1	RI0547418Y	470KΩ, Chip
RU48	1	1	1	1	RI0574318Y	47KΩ, Chip
RU49	1	1	1	1	RI0522318Y	22KΩ, Chip

(U) : for U.S.A.
(N) : for Europe
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REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						PU01-SEMICONDUCTORS
DU06	1	1	1	1	HD30022020	Zener MA1130(M)
DU07	1	1	1	1	HD30022020	Zener MA1130(M)
DU08	1	1	1	1	HD30022020	Zener MA1130(M)
DU09	1	1	1	1	HD30022020	Zener MA1130(M)
DU10	1	1	1	1	HD30022020	Zener MA1130(M)
⚠DU11	1	1	1	1	HD20015030	Diode DS135D
⚠DU12	1	1	1	1	HD20015030	Diode DS135D
DU16	1	1	1	1	HD20001000	Diode 1S1555
DU51	1	1	1	1	HD20001000	Diode 1S1555
DU52	1	1	1	1	HD20001000	Diode 1S1555
DU53	1	1	1	1	HD20001000	Diode 1S1555
DU54	1	1	1	1	HD30006020	Zener MA1062
QU02	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU03	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU04	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU05	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU06	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU08	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU10	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU11	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU12	1	1	1	1	HX327121AZ	Transistor 2SC2712(G), Chip
QU13	1	1	1	1	HX111621AZ	Transistor 2SA1162(G), Chip
⚠QU14	1	1	1	1	HT313832C0	Transistor 2SC1383(R or S)
QU15	1	1	1	1	HF202461C0	F.E.T. 2SK246(GR)
QU20	1	1	1	1	HC10073060	IC μPC546D
QU21	1	1	1	1	HC10074060	IC μPD554C
⚠QU22	1	1	1	1	HC10025210	IC BA6109
⚠QU23	1	1	1	1	HC10026210	IC BA6208
QU24	1	1	1	1	HX111621AZ	Transistor 2SA1162(G), Chip
						PU01-MISCELLANEOUS
JU02	1	1	1	1	YJ07000950	Jack, (8P)
JU03	1	1	1	1	YJ07001000	Jack, (6P)
JU04	1	1	1	1	YJ07000970	Jack, (10P)
JU05	1	1	1	1	YP06002410	Plug, (5P)
JU06	1	1	1	1	YJ07000950	Jack, (8P)
JU07	1	1	1	1	YJ06002700	Jack, (8P)
JU08	1	1	1	1	YJ06002710	Jack, (8P)
JU09	1	1	1	1	YJ07000940	Jack, (4P)
JU10	1	1	1	1	YB00400370	Connective Cord, (2P)
JU11	1	1	1	1	YJ07000940	Jack, (4P)
JU12	1	1	1	1	YJ06002720	Jack, (3P)
JU13	1	1	1	1	YJ06002396	Jack, (5P)
XU01	1	1	1	1	FQ04003010	Ceramic VIB. CSB400P
WU01	1	1	1	1	YU04400500	Jumper Lead, (4P)
WU02	1	1	1	1	YU08300500	Jumper Lead, (8P)
WU03	1	1	1	1	YU06300500	Jumper Lead, (6P)
WU04	1	1	1	1	YU05100260	Jumper Lead, (5P)
WU05	1	1	1	1	YU10100500	Jumper Lead, (10P)
WU11	1	1	1	1	YU04300500	Jumper Lead, (4P)

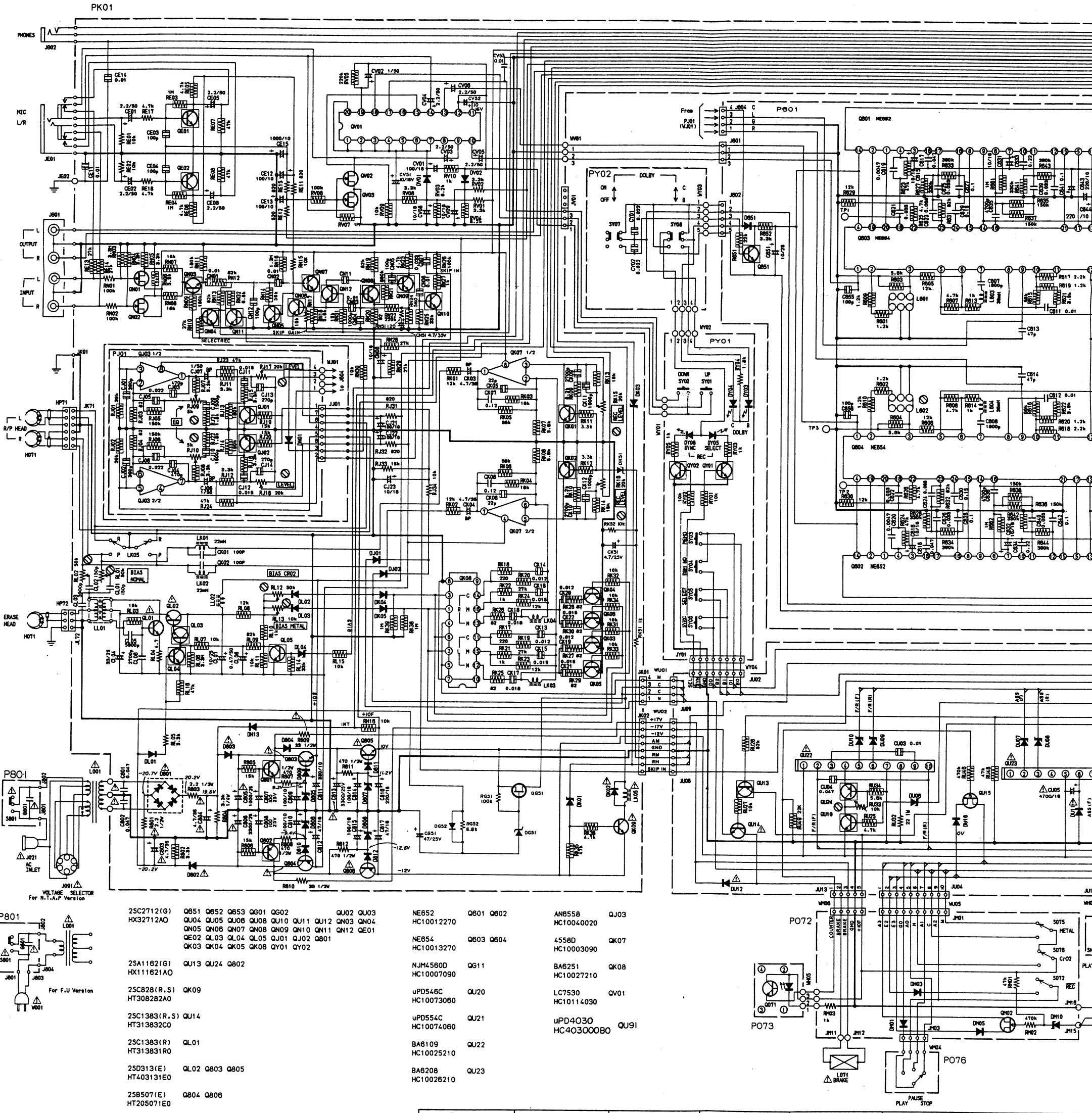
REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						PU99-U-COM SUB CIRCUIT BOARD
PU99	1	1	1	1	YF139T0020	P.W. Board U-COM SUB
	1	1	1		ZZ139T0020	P.W. Borad Assembly
						PU99-CAPACITORS
CU91	1	1	1	1	EA33601030	33μF 10V
CU92	1	1	1	1	EA22701030	220μF 10V
						PU99-RESISTORS (All Resistors are ±5% &¼W)
RU91	1	1	1	1	GD05103140	10KΩ
RU92	1	1	1	1	GD05222140	2.2KΩ
RU93	1	1	1	1	GD05473140	47KΩ
RU94	1	1	1	1	GD05103140	10KΩ
RU95	1	1	1	1	GD05473140	47KΩ
RU96	1	1	1	1	GD05224140	220KΩ
						PU99-SEMICONDUCTORS
DU91	1	1	1	1	HD20001000	Diode 1S1555
DU92	1	1	1	1	HD20001000	Diode 1S1555
QU91	1	1	1	1	HC403000B0	IC μPD4030
						P072-MECHA SWITCH CIRCUIT BOARD
P072	1	1	1	1	YH139T1410	P.W. Board, Mecha Switch
						P072-RESISTORS
RM01	1	1	1	1	GD05473140	47KΩ ±5% ¼W
RM02	1	1	1	1	GD05473140	47KΩ ±5% ¼W
RM03	1	1	1	1	GD05102140	1KΩ ±5% ¼W
						P072-SEMICONDUCTORS
DM01	1	1	1	1	HD20001000	Diode 1S1555
DM03	1	1	1	1	HD20001000	Diode 1S1555
DM05	1	1	1	1	HD20001000	Diode 1S1555
DM08	1	1	1	1	HD20001000	Diode 1S1555
DM10	1	1	1	1	HD30009020	Zener MA1110
QM02	1	1	1	1	HF202461C0	F.E.T. 2SK246(GR)
						P072-MISCELLANEOUS
JM01	1	1	1	1	YJ07000790	Jack, (10P)
JM03	1	1	1	1	YJ06002440	Jack, (4P)
JM04	1	1	1	1	YJ06002390	Jack, (5P)
WM05	1	1	1	1	YU03120260	Jumper Lead, (3P)
S072	1	1	1	1	SM01020450	Mini Swtich, Rec Safty
S075	1	1	1	1	SM01020450	Mini Switch, Metal
S076	1	1	1	1	SM01020450	Mini Switch, CrO2

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:
SYMBOL ⚠ FIRE OR ELECTRICAL SHOCK HAZARD. ONLY ORIGINAL PARTS SHOULD BE USED TO REPLACE ANY PART MARKED WITH SYMBOL ⚠. ANY OTHER COMPONENT SUBSTITUTION (OTHER THAN ORIGINAL TYPE), MAY INCREASE RISK OF FIRE OR ELECTRICAL SHOCK HAZARD.

11. TECHNICAL SPECIFICATIONS

Style	Drawer type
Tape Drive System	Single Capstan Drive
Cartridge	Philips type compact cassette
Track System	Compatible Stereo 4-track 2-channel
Tape Speed	4.75 cm/sec.
Heads	2 Head System
Composition	Rec/Play: Amorphous
	Erase: Dual gap Ferrite
Motor	Reel: DC Motor
	Capstan: DC Servo Motor
	Mechanism: DC Motor
Meters	6 Dot LED Peak Level
Overall Frequency Response at −20 dB	
Normal Tape	30 Hz~17 kHz
CrO_2 Tape	25 Hz~18 kHz
Metal Tape	25 Hz~19 kHz
Signal-to-Noise Ratio:	
Dolby (ON) B/C	63/70 dB
Dolby (OFF)	56 dB
Wow and Flutter	
DIN WTD	±0.09 %
Outputs	
Line Level/Impedance	400 mV/5 kΩ
Headphone Level/Impedance	50 mV/8 Ω
Input (Level at 0 VU)	
Line Sensitivity/Impedance	70 mV/50 kΩ
Mic Sensitivity/Impedance	0.6 mV/10 kΩ
Fast Rewind Time	80 sec. (C-60)
Fast Forward Time	80 sec. (C-60)
Power Requirement	110/120/220/240 V AC, 50/60 Hz
Dimensions (W×H×D)	320×55×260 mm
Weight	3.8 kg



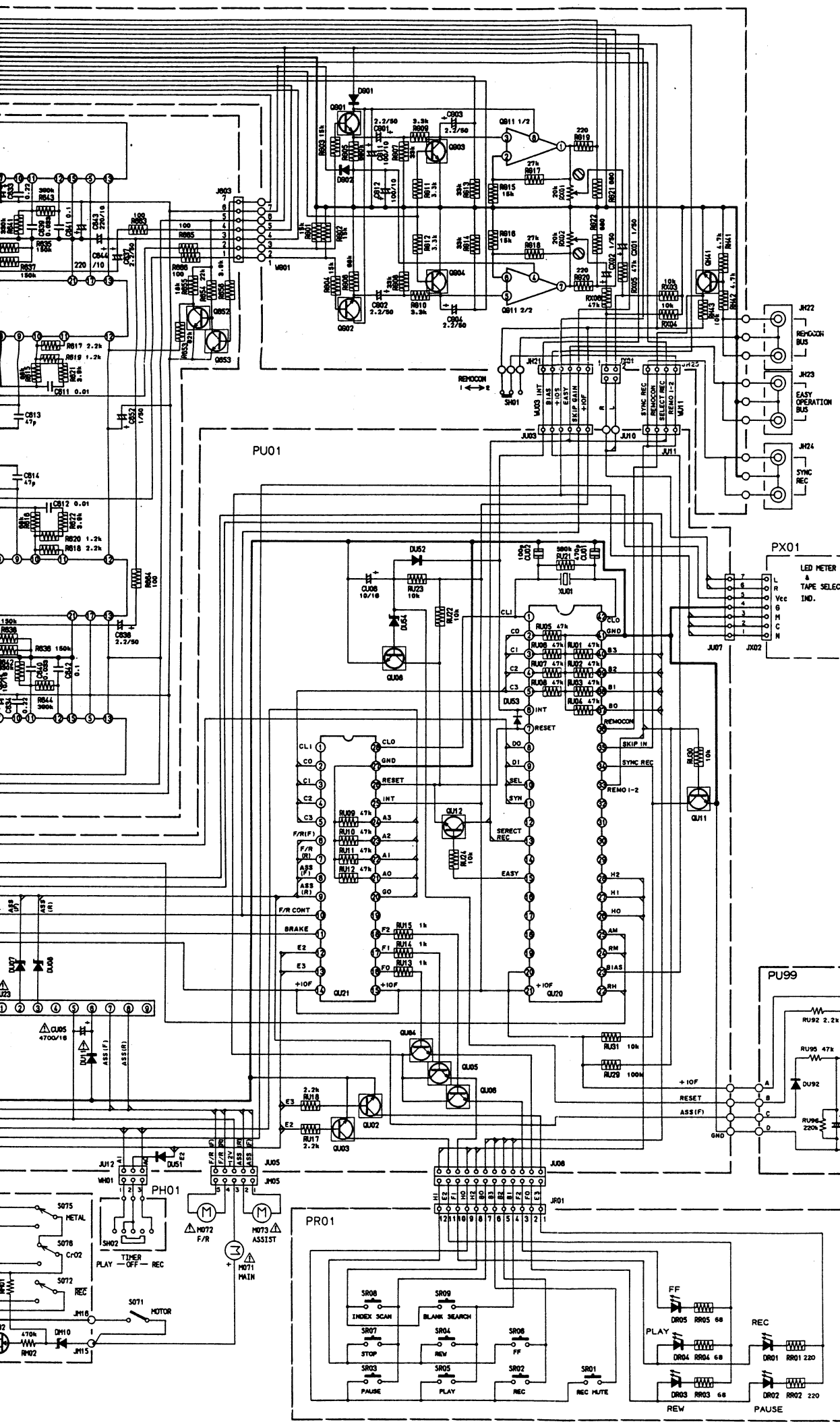
2SC2712(G)	Q851 Q852 Q853 QG01 QG02	QU02 QU03	NE652	Q601 Q602	AN8558	QJ03
HX32712A0	QU04 QU05 QU06 QU08 QU10 QU11 QU12 QN03 QN04 QN05 QN06 QN07 QN08 QN09 QN10 QN11 QN12 QE01 QE02 QL03 QL04 QL05 QJ01 QJ02 Q801 QK03 QK04 QK05 QK06 QY01 QY02		HC10012270		HC10040020	
			NE654	Q603 Q604	4558D	QK07
2SA1162(G)	QU13 QU24 Q802		HC10013270		HC10003090	
HX111621A0			NJM4560D	QG11	BA6251	QK08
2SC828(R,S)	QK09		HC10007090		HC10027210	
HT308282A0			uPD546C	QU20	LC7530	QV01
2SC1383(R,S)	QU14		HC10073060		HC10114030	
HT313832C0			uPD554C	QU21	uPD4030	QU91
2SC1383(R)	QL01		HC10074060		HC403000B0	
HT313831R0			BA6109	QU22		
2SD313(E)	QL02 Q803 Q805		HC10025210			
HT403131E0			BA6208	QU23		
2SB507(E)	Q804 Q806		HC10026210			
HT205071E0						
2SK246(Y)	QN01 QN02					
HF202461B0						
2SK246(GR)	QU15 QM02 QV02 QV03 QG51					
HF202461C0						
2SD1030(T)	QG03 QG04 QK01 QK02					
HX410301T0						

TOP VIEW					TOP VIEW	TOP VIEW	TOP
μPD4030	2SC828(R,S)	2SK246(Y) 2SK246(GR)	2SC1383(R,S) 2SC1383(R)	2SD313(E) 2SB507(E)	2SC2712(G)	2SA1162(G)	NJM4 NJM4

NOTE ON SAFETY:
SYMBOL ⚠ FIRE OR ELECTRICAL SHOCK HAZARD. ONLY ORIGINAL PARTS SHOULD BE USED TO REPLACE ANY PART MARKED WITH SYMBOL ⚠. ANY OTHER COMPONENT SUBSTITUTION (OTHER THAN ORIGINAL TYPE), MAY INCREASE RISK OF FIRE OR ELECTRICAL SHOCK HAZARD.

CHIP PARTS

SCHEMATIC DIAGRAM



QU20			
PIN NO.	STOP	PLAY	REC
1	7.7V	7.5V	7.5V
2	0.3V	0V	0.4V
3	0V	0.4V	0V
4	0V	0V	0V
5	0V	0.8V	0.8V
6	10.3V	10.2V	10.1V
7	0V	0V	0V
8	0V	0V	0V
9	3.5V	3.5V	3.5V
10	-0.3V	-0.1V	0V
11	-0.3V	-0.1V	0.1V
12	10.3V	10.1V	10.0V
13	0V	0V	0V
14	0V	0V	0V
15	0V	0V	0V
16	0V	0V	0V
17	0V	0V	0V
18	0V	10.1V	10.0V
19	10.3V	10.1V	10.0V
20	10.0V	10.1V	10.1V
21	10.3V	10.1V	10.1V
22	0V	0V	9.7V
23	10.2V	0V	0V
24	9.9V	9.8V	-0.2V
25	9.9V	0V	-0.3V
26	3.0V	0V	2.6V
27	2.7V	2.8V	2.7V
28	5.0V	5.0V	5.0V
29	5.0V	5.0V	5.0V
30	0V	0V	0V
31	0V	0V	0V
32	0V	0V	0V
33	10.3V	10.1V	10.1V
34	0V	0V	0V
35	8.2V	7.5V	0.3V
36	10.3V	0V	10.1V
37	0V	0V	0V
38	0V	0V	0V
39	0V	0V	0V
40	0V	0V	0V
41	0V	0V	0V
42	8.1V	8.0V	8.0V

QU23			
PIN NO.	STOP	PLAY	REC
1	0V	0V	0V
2	-11.6V	-11.1V	-11.2V
3	-11.6V	-11.1V	-11.2V
4	0V	0V	0V
5	-11.6V	-11.2V	-11.2V
6	-0.3V	-0.4V	-0.3V
7	-0.1V	-0.5V	-0.4V
8	0V	-0.5V	-0.4V
9	0V	0V	0V

SYM.		B	C	E
QE01	S	-3.1V	-0.9V	-3.7V
QE02	S	-3.1V	-0.9V	-3.7V
QG01	S	0.1V	7.5V	-0.4V
QG02	S	0.1V	7.5V	-0.4V
QG03	S	0.7V	0V	0V
QG04	S	0.7V	0V	0V
QH41	S	0V	10.3V	0V
QJ01	N	0V	0V	0V
	C	0.7V	0V	0V
	M	0.7V	0V	0V
QJ02	N	0V	0V	0V
	C	0.7V	0V	0V
	M	0.7V	0V	0V
QK01	R	0V	—	—
	S	0.7V	0V	0V
QK02	R	0V	—	—
	S	0.7V	0V	0V
QK03	S	0V	0V	0V
QK04	S	0V	0V	0V
QK05	S	0V	0V	0V
QK06	S	0V	0V	0V
QK09	R	10.4V	-11.1V	—
	S	-11.5V	10.3V	-11.5V
QL01	N	-7.6V	-2.4V	-7.9V
	C	-7.8V	-0.9V	-7.9V
	M	-8.0V	-5.5V	-7.7V
QL02	N	-1.9V	8.1V	-2.4V
	C	-0.3V	8.0V	-0.9V
	M	6.2V	7.9V	5.7V
	S	-7.4V	8.2V	-8.0V
QL03	N	-1.3V	8.1V	-1.9V
	C	0V	8.0V	-0.3V
	M	0V	7.9V	6.2V
	S	-8.3V	8.2V	-7.4V
QL04	N	-8.2V	-1.3V	-8.3V
	C	-8.2V	0V	-8.3V
	M	-8.2V	0V	-8.2V
	S	-8.3V	-8.3V	-8.4V
QL05	N	-8.3V	-1.0V	-8.3V
	C	-8.3V	0.5V	-8.3V
	M	-8.2V	7.4V	-8.3V
	S	-7.7V	-8.3V	-8.4V
SYM.		G	S	D
QN01	S	0V	0.8V	0V
QN02	S	0V	0.8V	0V
SYM.		B	C	E
QN03	S	0V	0.8V	0V
QN04	S	0V	0V	0V
QN05	S	0.7V	0V	0V
QN06	S	—	0.7V	0V
QN07	S	4.9V	8.2V	4.6V
QN08	S	0.6V	1.3V	0V
QN09	S	1.3V	2.8V	0.7V
QN10	S	0V	8.2V	0V
QN11	S	0V	0V	0V
QU02	S	0.4V	0V	0V
QU03	S	0.3V	2.0V	0V
QU04	S	0V	8.3V	0.1V
QU05	S	0V	8.3V	0.1V
QU06	S	3.6V	8.3V	3.5V
QU08	S	0.7V	0V	0V
QU10	S	-11.1V	—	—
QU11	S	0V	0.1V	0V
QU12	S	-0.3V	0V	0V
QU13	S	10.2V	-20.3V	10.3V
QU14	S	-20.4V	20.2V	-20.9V
SYM.		G	S	D
QV15	S	3.2V	3.5V	—
QV02	S	-5.5V	—	0V
QV03	S	-5.5V	—	0V
SYM.		B	C	E
QY01	S	0V	0V	0V
QYC2	S	0V	0V	0V
Q651	S	-7.7V	-8.4V	-8.4V
Q652	R	-8.2V	8.2V	-8.4V
	S	-7.7V	-8.3V	-8.4V
Q653	R	-7.6V	-8.2V	-8.4V
	S	-7.8V	-7.7V	-8.4V
Q801	S	18.7V	19.9V	18.0V
Q802	S	-19.5V	-18.9V	-20.8V
Q803	S	8.8V	19.9V	8.2V
Q804	S	-8.9V	-20.8V	-8.4V
Q805	S	-10.7V	19.4V	—
Q806	S	-12.1V	-20.8V	-11.5V

Q603/Q604			
PIN NO.	STOP	PIN NO.	STOP
1	0V	13	8.3V
2	0V	14	-0.2V
3	0V	15	0.2V
4	-7.9V	16	-0.2V
5	0.2V	17	-8.4V
6	0.2V	18	0.2V
7	0V	19	-0.2V
8	-0.2V	20	0.2V
9	0V	21	0V
10	0V	22	0V
11	-0.2V	23	0V
12	-8.3V	24	0V
	R 8.0V		

QU22			
PIN NO.	STOP	PLAY	REC
1	-11.6V	-11.3V	-11.2V
2	-11.1V	-7.8V	-7.7V
3	-11.5V	-6.4V	-6.2V
4	-2.8V	-7.0V	-6.9V
5	-10.4V	-4.4V	-4.4V
6	-10.4V	-10.1V	-10.2V
7	0V	0V	0V
8	0V	-3.5V	-3.5V
9	-11.5V	-11.0V	-11.1V
10	-11.0V	-10.9V	-11.0V

QU21			
PIN NO.	STOP	PLAY	REC
1	6.8V	6.8V	6.5V
2	0.3V	0.2V	0.3V
3	0.2V	0.3V	0.2V
4	0.8V	0.8V	0.6V
5	0.7V	0.8V	0.8V
6	0V	9.2V	9.0V
7	0V	0V	0V
8	0V	0V	0V
9	0V	0V	0V
10	0V	9.9V	9.8V
11	10.3V	10.1V	9.9V
12	3.2V	3.0V	2.8V
13	3.4V	3.2V	3.3V
14	10.3V	10.1V	10.0V
15	10.3V	10.1V	10.0V
16	0V	0V	0V
17	0V	0V	0V
18	4.0V	3.8V	3.8V
19	6.0V	6.0V	6.0V
20	2.9V	2.8V	2.8V
21	0V	2.7V	2.6V
22	3.5V	3.2V	3.0V
23	5.5V	2.8V	2.8V
24	5.2V	5.1V	5.0V
25	10.3V	10.1V	10.0V
26	0V	0V	0V
27	0V	0V	0V
28	7.5V	7.5V	7.4V

QU01			
PIN NO.	STOP	PIN NO.	STOP
1	—	11	0V
2	—	12	-4.6V
3	—	13	0V
4	—	14	0V
5	—	15	0V
6	—	16	—
7	—	17	3.7V
8	—	18	3.7V
9	0V	19	-4.5V
10	0V	20	3.7V

QK07			
PIN NO.	STOP	PIN NO.	STOP
1	0V	5	0V
2	0V	6	0V
3	0V	7	0V
4	-8.2V	8	8.1V

QJ03			
PIN NO.	STOP	PIN NO.	STOP
1	0V	5	0V
2	0V	6	0V
3	0V	7	0V
4	-5.1V	8	-5.0V

QK08			
PIN NO.	STOP	PIN NO.	STOP
1	0V	9	0V
2	0V	10	0V
3	0V	11	0V
4	10.3V	12	0.5V
5	10.3V	13	0V
6	0V	14	0.5V
7	0V	15	0.5V
8	0V	16	0.5V

DOLBY OFF

Q601/Q602			
PIN NO.	STOP	PIN NO.	STOP
1	0.2V	10	0V
2	-0.2V	11	0V
3	0V	12	0V
4	0V	13	8.3V
5	0V	14	7.9V
6	0V	15	0V
7	0V	16	0V
8	0.2V	17	0V
9	-0.2V	18	0V

QG11			
PIN NO.	STOP	PIN NO.	STOP
1	0V	5	0V
2	0V	6	0V
3	0V	7	0V
4	-7.7V	8	7.6V

S — STOP
R — RECORD
P — PLAY
N — NORMAL
C — CrO2
M — METAL

TOP VIEW	TOP VIEW	TOP VIEW	TOP VIEW	TOP VIEW	TOP VIEW	TOP VIEW	TOP VIEW	TOP VIEW	FRONT VIEW	FRONT VIEW
1162(G)	NJM4558D NJM4560D	AN6558	BA6251	NE652	LC7530	NE654	μPD554C	μPD546C	BA6208	BA6109

Components and wiring are subject to change for modification without notice.